

Flight, July 12, 1913.

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

No. 237. (No. 28, Vol. V.)

JULY 12, 1913.

[Registered at the G.P.O.] [Weekly, Price 3d.
as a Newspaper. Post Free, 3½d.]

Flight.

Editorial Office: 44, ST. MARTIN'S LANE, LONDON, W.C.
Telegrams: Truditur, Westrand, London. Telephone: Gerrard 1828.
Annual Subscription Rates, Post Free.
United Kingdom ... 15s. od. Abroad ... 20s. od.

CONTENTS.

	PAGE
Editorial Comment:	
Paper Defence ...	753
Men of Moment in the World of Flight: Mr. H. G. Hawker ...	755
Ladies' Day at Hendon ...	759
The Avro Waterplane. (With scale drawings) ...	758
Royal Aero Club. Official Notices ...	762
From the British Flying Grounds ...	763
Armchair Reflections. By The Dreamer ...	766
Questions in Parliament ...	767
From Paris to London in a Nieuport Waterplane. By Julien Levasseur ...	768
Skimmers and Hydro-aeroplanes. By J. E. Steele, B.Sc. ...	770
The Holt Thomas Fire Plug ...	771
Airship and Balloon News ...	772
Foreign Aviation News ...	773
Models. Edited by V. E. Johnson, M.A. ...	776
Model Clubs Monthly Reports ...	777

EDITORIAL COMMENT.

Paper Defence.

The strongest possible indictment of the Government's Paper Defence—meaning the vicious administration of the Aerial Navigation Act, in lieu of providing good golden sovereigns for the development of tangible Aeronautics in Britain—is contained in a memorandum published amongst the Royal Aero Club's notices this week.

Having, in common with everyone else who is actively and closely engaged in the real business of aviation in this country, been baulked in its legitimate enterprise by the pettifogging officiousness of those whose delight it is to brandish this paper bill as if it were a policeman's truncheon, the Royal Aero Club appointed a committee to enquire into the working of the Act, and the result of that enquiry is now made known in definite and unmistakable terms.

It has found the working of the Act very evil indeed as judged from the standpoint of the encouragement required to ensure this nation's supremacy in the air. It finds that the Act has interfered with industry, has interfered with the practice of aviation and has interfered with private generosity upon which the development of aircraft in England has been in the past and is still largely dependent, owing to the apathy of the Govern-

ment and the general public towards the real needs of the situation.

Here is a measure hurriedly passed in a moment of temporary excitement induced by the nocturnal visit of a "scare ship." Reading it in the morning light, any soberly minded person would ordinarily regard it as a piece of legal machinery that might be useful upon occasion to bring people suspected of espionage by air, summarily within the reach of the arm of the law. So far so good. But what in fact has the Act been used to do? It has been used as a means of prohibiting the Aerial Derby around London. It has been used to obstruct the smooth progress of the arrangements of the waterplane race round Britain. It has been used for the prevention of several perfectly legitimate flights, such as that, for example, in which Mr. Grahame-White was forced recently to ignominiously "taxi" up the Thames. It has been used for the purpose of making inoffensive people, privately and honourably engaged in the furtherance of the aviation industry, appear in police courts where they are bound over to come up for judgment if called upon. It has been used in such a way as to virtually warn off British pilots from our own shores when they have flown abroad either for their amusement or on business.

It has *not* been used to prevent the Naval Wing of the Royal Flying Corps watching without protest the flying over prohibited areas of foreign machines delivered by foreign pilots for test.

On a question of policy, we are aware that there are those who would favour the total prohibition of foreigners flying above English soil. We do not purpose to discuss this point. If it were in the Government's mind to do this, it were better done outright and straightforwardly by an unambiguous Act to that effect. So long as the Government takes no exception to the principle on national grounds, we feel every justification for encouraging whatever may stimulate industrial progress, and the visits of foreign pilots with foreign machines is an item properly to be regarded under this head.

The illogical nature of the interpretation of the Aerial Navigation Act is sufficiently evidenced by the welcome accorded to Brindejone des Moulinais at Hendon, and the prohibition placed upon Claude Grahame-White on the Thames. Mr. Grahame-White—whose enterprise in backing the Hendon aerodrome at the psychological moment has done more than many things to encourage an interest in aviation in this country—is submitted to the indignity of being prevented from flying over certain

places because of what he might learn of the defences of this country! On the other hand, foreigners of every description are quite at liberty to fly all over the greater part of England, and of learning to know the country in a manner that would be of infinitely more value to an invading force than anything they might see of the detail of a prohibited area, whilst casually flying across it in an aeroplane.

Let us, of course, say at once that we impute no improper motive to any foreigner who happens to be flying in England at the present time. We are merely drawing attention to some of the more obvious absurdities in the interpretation of the Aerial Navigation Act as it is at present being administered, and showing how illogical it is that so much should be made of this Act, in the obstruction that has been placed in the way of the suitable organisation of the *Daily Mail* waterplane race round Britain.

Up to date, the *Daily Mail* has done a great deal more than the Government to encourage British aeronautics, and the positive value of their present offer is infinitely beyond the "negative" value to be gained by the literal observance of the Aerial Navigation Act in respect to the starting of the event from Southampton Water and the use of certain other prohibited controls.

Frankly, we have absolutely no patience with this particularly objectional form of activity on the part of the Government. It has been necessary in the past to foster the British aviation industry without Government support, and at the present time it is necessary to continue to fight for it in spite of this form of pronounced Government opposition.

We should have little or nothing to say about the matter if the Government activities of a more important kind compensated for such petty insistence on wholesale respect for the letter of its laws. The mere fact that the Government's sensitiveness over the details of its Aerial Navigation Act looms so prominently in current events as it does, is in itself a condemnation of Government policy.

And when the renewed debate on the Army Estimates comes before the House we trust that Members of Parliament who have the interests of the movement at heart, will not lose points by choosing specially prepared red herrings that are dragged across the track for their benefit. There is only one thing that at the moment really concerns Parliament, and that is to see that a

sufficient sum of money is not only voted but is in fact forthcoming.

It is useless to have a lot of sweet promises in Parliament, but honeyed words will not provide the wherewithal properly to maintain the establishment of the Royal Flying Corps, far less to make any provision for its suitable expansion. Even on paper the entire aviation vote in the Army Estimates is scarcely one half of the round million that we advocated as the minimum that should be set aside this year for capital expenditure.

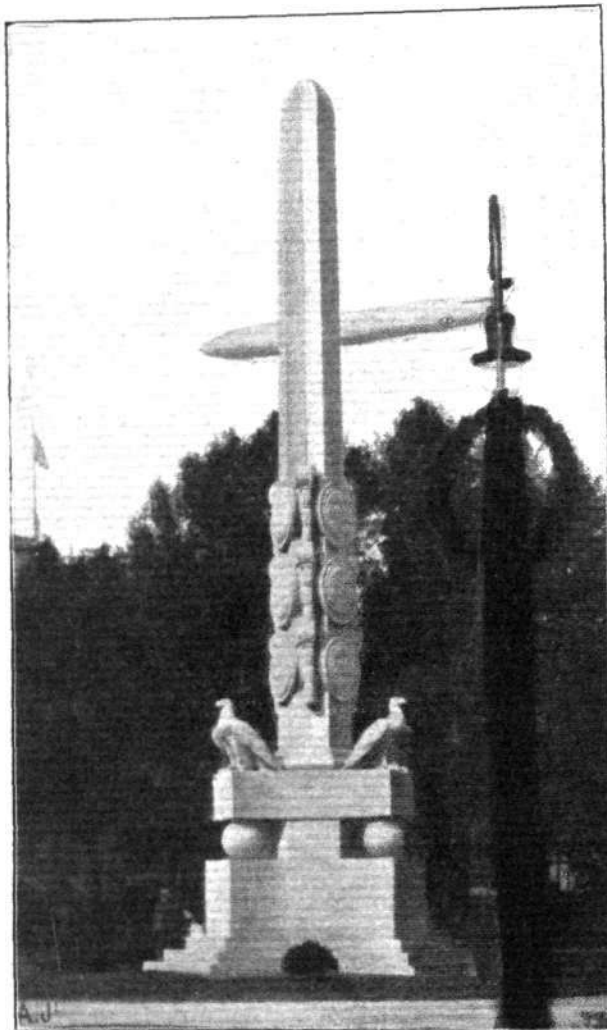
We firmly believe that the only thing of any consequence to go for at the present time in Parliament is this

question of finance; it is impossible to make "bricks without straw," and until the public has been properly assured that there is all the money that is needed, it is of little use fussing around details of the expenditure of a perfectly inadequate sum. We are quite convinced that we have flying men and administrative officers in this country who are second to none. We are also quite convinced that we can build airships and dirigibles in this country that can rank on the same level as the men who use them. But, we are equally quite certain that these things cannot be done without a liberal expenditure of money.

The real trouble at the present time is that the seriousness of the position has not yet gripped the minds of the majority of the British public. There have been one or two spasmodic flutters of interest, of which, for instance, the most recent was the Mansion House Meeting organised by the Navy League. Even in the brief interval since then, however, public enthusiasm has waned. It is a little the same thing in the case of aeronautics in Parliament. The serious questioners are few. The majority of the House watches the verbal duel with amused speculation as to whether

Member or Minister will trip up the other. It is time some of the others took a hand in the game, to show the Chancellor of the Exchequer that the proper provision for National aeronautics is something that has the weight of public opinion in its favour. And this before it is too late.

A hint as to what a game this parliamentary fencing is, is forthcoming in Mr. Joynson-Hicks' reply, which we print elsewhere, to Col. Seely's profession of ignorance as to whether he, Mr. Joynson-Hicks, had yet completed his inspection of the alleged eighty efficient service aeroplanes. Truly it is a case of fooling the country, and time the truth was known.



A column erected on the Donhoffplatz, Berlin, to commemorate the work of the pioneers in aeronautics in Germany. It carries nine shields, bearing the names respectively of Prince Henry of Prussia, Count Zeppelin, Bartsch von Sigsfeld, Hänlein, Parseval, Berson, Suring, Lilienthal and Daimler. The Zeppelin airship which is passing by is the "Victoria Louise."

JULY 12, 1913.

FLIGHT

MEN OF MOMENT IN THE WORLD OF FLIGHT. British Pilots.



Mr. H. G. HAWKER.

LADIES' DAY AT HENDON.

IT might have been assumed that at any rate for Ladies' Day at Hendon the clerk of the weather would have put forth his best, but those who relied upon that were disappointed last Saturday. Not that the awful weather made much difference to the flying, and the unusually big crowd, including a large number of members of the Women's Patriotic Aerial League, which had assembled to witness the race was not disappointed, the Hendon pilots once more proving that they deserve the reputation which they have established for flying in any kind of weather. Mr. Cheeseman opened up the proceedings for the afternoon by taking up a passenger in the G.-W. 'bus, and Mr. Manton then took over the machine to give a trip to a lady passenger.

In the meantime, Mr. Slack brought out the Morane-Saulnier, and gave some demonstrations of speed flying, handling his new mount in excellent style. While he was in the air, a Blériot monoplane was sighted, approaching at a great speed, and it proved to be Mr. Hamel accompanied by a lady passenger. They had flown over from Brooklands in 14 mins. Coming down in a beautiful spiral, they proceeded to chase Slack on the speedy Morane-Saulnier, and the two machines performed a series of graceful evolutions, including turns, switchbacks and corkscrews.

Owing to the rain, it was found necessary to postpone the cross-country race until 4 o'clock, and in the meantime exhibition flights were given by Grahame-White, Noel, Cheeseman, Manton, Hall, Brock, and Gates, the last-mentioned giving a demonstration of his famous "rag-time" flying on the G.-W. 'bus. At 4 o'clock a start was made for the cross-country race, although the rain was still pouring. Each of the three starters carried a lady passenger, and one hardly knows whom to admire most, the passengers or the pilots, for starting under such adverse circumstances. The course was to Mill Hill and back, three times, and Verrier won the race easily, both Noel and Brock losing their way in the rain.

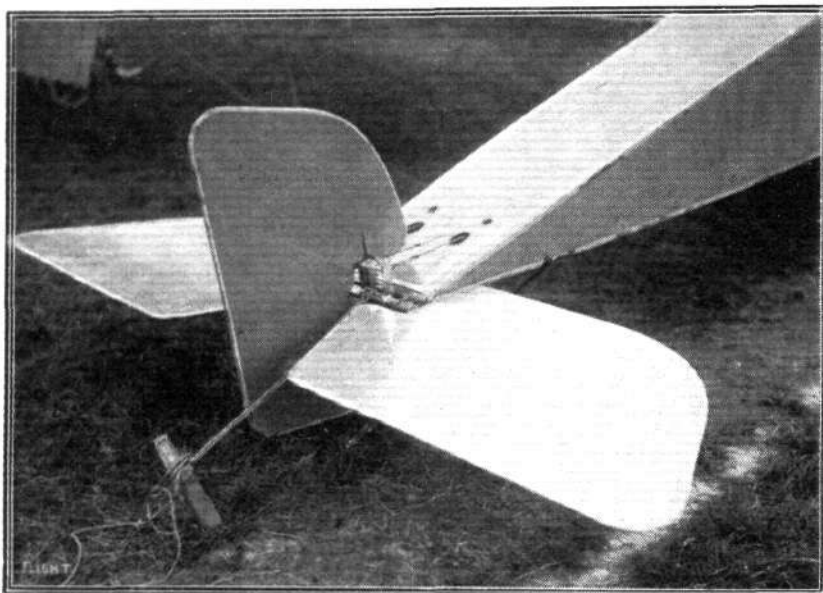
After the cross-country race Mr. Hamel, with Miss Davies as passenger, gave the spectators an example of his trick flying, doing right and left hand banked turns, and Messrs. Slade, Hall, and Temple also contributed towards the afternoon's entertainment by giving excellent exhibitions on their respective machines. Mr. Hamel, always keen on altitude flying, went up to 6,000 ft., accompanied by Miss Davies.

At 5.30 a start was made for the speed handicap, the following aviators starting:—Slack, scratch; Cheeseman, 5 mins. 42 secs. start; Verrier, 1 min. 53 secs. start; and Brock, 38 secs. start. This event was easily won by Cheeseman, who had completed nearly two laps before Verrier started, though Brock and Verrier had an

exciting struggle for second place, the latter winning by only two-fifths of a second:—

Results—Cheeseman (50 h.p. G.-W. biplane), 16 mins. 36½ secs.; Verrier (70 h.p. M. Farman biplane), 16 mins. 57 secs.; Brock (35 h.p. Dep. mono.), 16 mins. 57½ secs.; Slack (Morane-Saulnier mono.), 17 mins. 12½ secs.

The prizes were subsequently distributed by Lady Ela Ruffell.

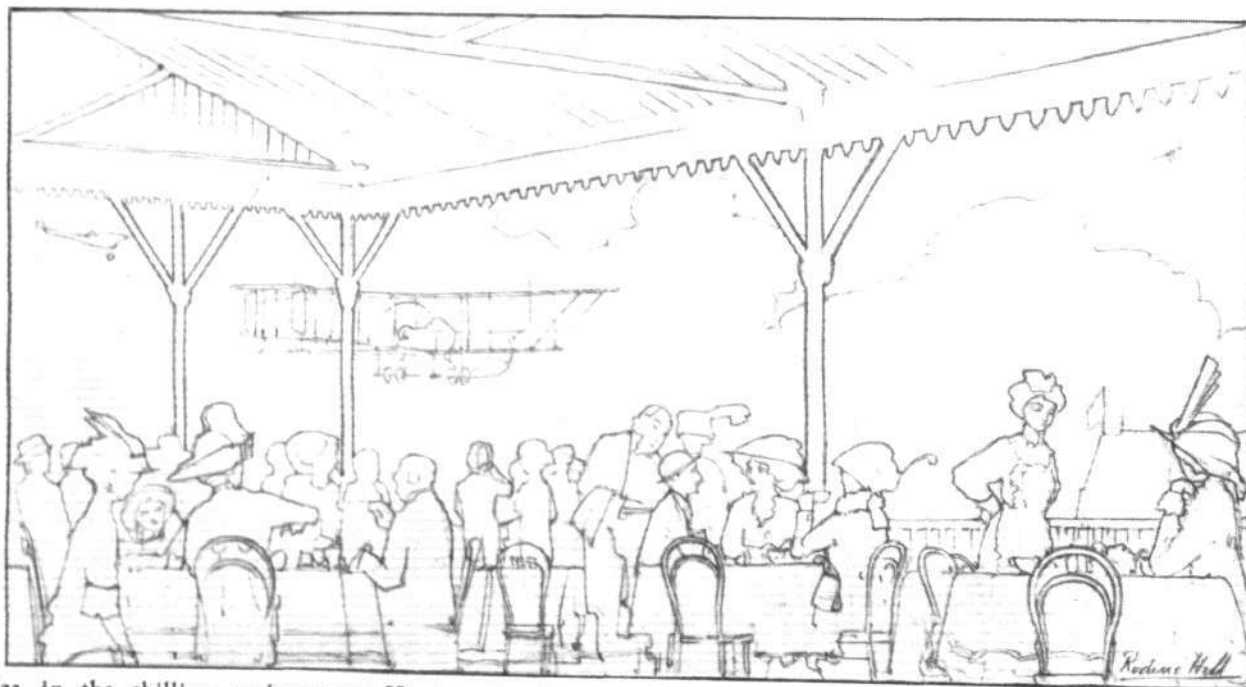


"Flight" Copyright

The tail of the Morane-Saulnier monoplane, showing the very neat arrangements of the rudder and elevator wires and levers.

Hawker on the Sopwith Secures Another Prize.

CONGRATULATIONS to Mr. H. G. Hawker, whose portrait as a Man of Moment appears in this week's issue, upon his further advancement of aviation by the winning of the Mortimer Singer prize of £500 for the first British pilot, with passenger, on a British machine, to make, without any outside assistance, six out and home five mile flights (including a climb to 1,500 ft.), alighting at each turning point, one of which must be at least one mile from the shore. The tests were made in Southampton Water on Tuesday, the machine being the Sopwith flying boat, with 100 h.p. Green engine.



Tea in the shilling enclosure at Hendon Aerodrome with aeroplanes circling the course. From an original drawing by Roderic Hill.

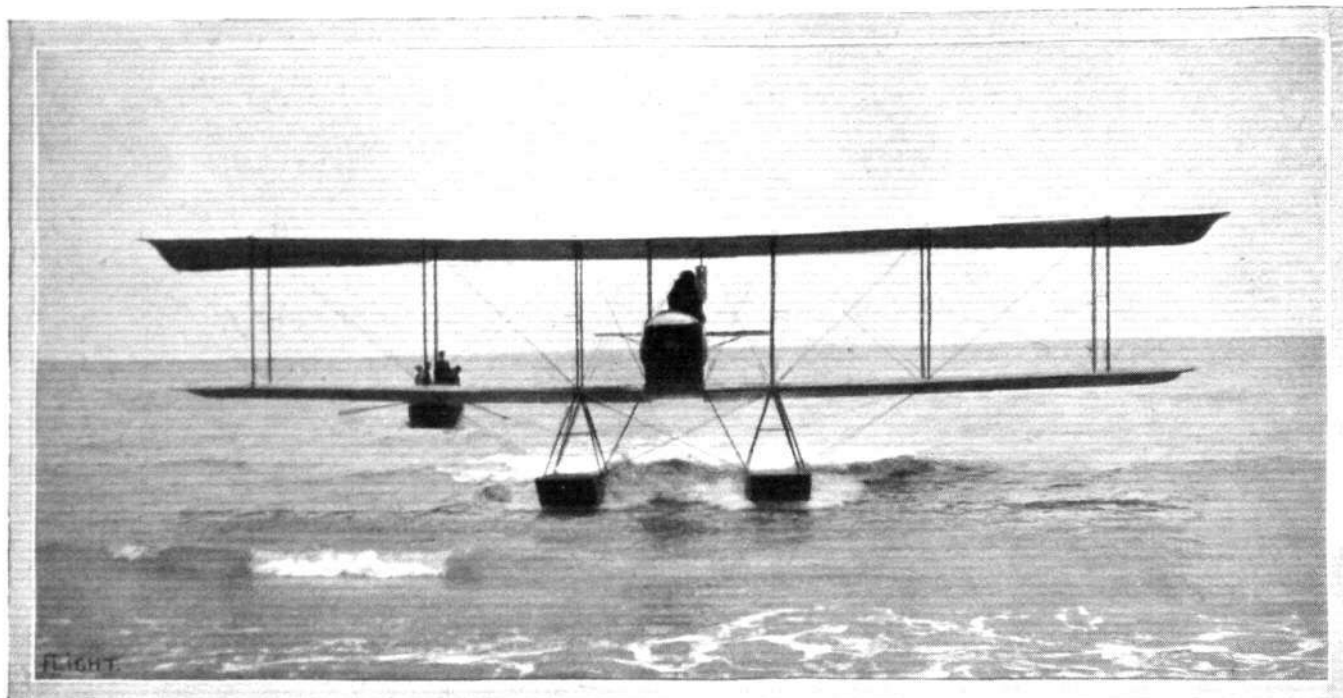


"LADIES DAY" AT HENDON AERODROME.—The Morane-Saulnier and Blériot circling round each other.
From an original drawing by Roderic Hill.

THE AVRO WATERPLANE.

THE new Avro 100 h.p. waterplane, which has been flying so well at Shoreham in the hands of Mr. Raynham, is the first machine to have floats designed by A. V. Roe and Co., their earlier hydroplanes having been built

water, as compared with getting off land. Furthermore, there are certain alterations in construction which have been rendered necessary by the altered conditions, as, for example, the substitution of flaps for warping.

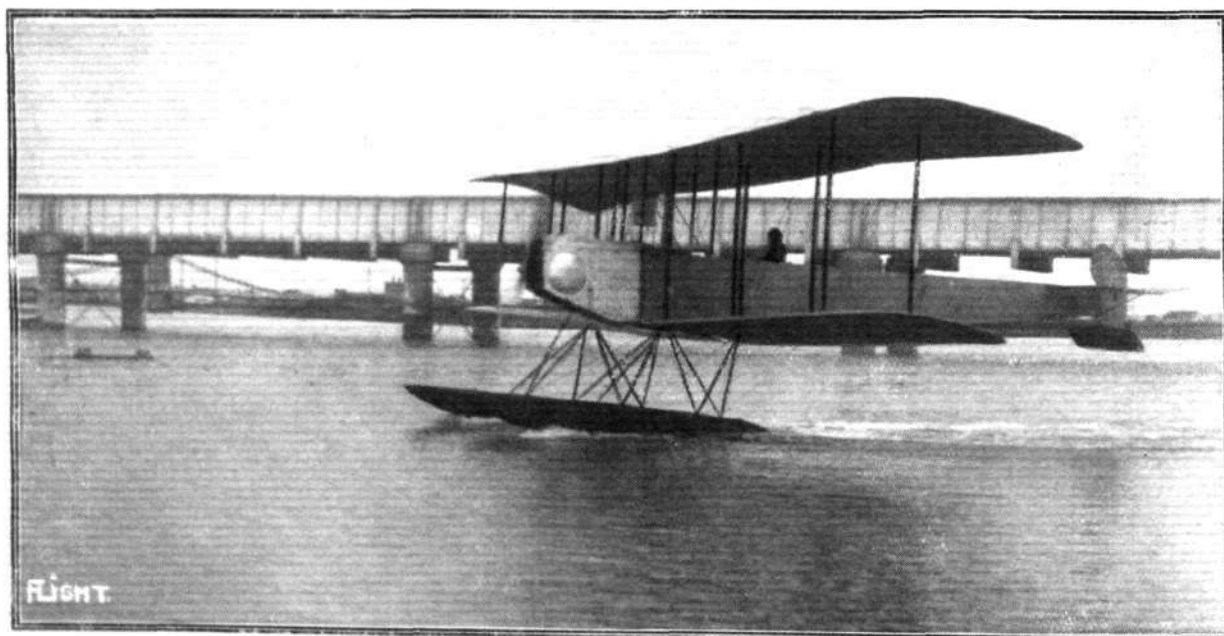


The 100 h.p. Avro hydro-biplane on the sea, as seen from in front.

to customers' designs. The result appears to have justified the enterprise, for the machine gets off the water within 60 yards in calm weather, and requires but little more space in a moderate swell.

In general, the Avro waterplane has a close resemblance

The main planes measure 50 ft. in span, as compared with the standard span of 36 ft., and contain five panels instead of three, as in the standard Army type. They have a chord of 6 ft., and the gap between planes is 6 ft. 9 ins. The upper plane only is provided with flaps of

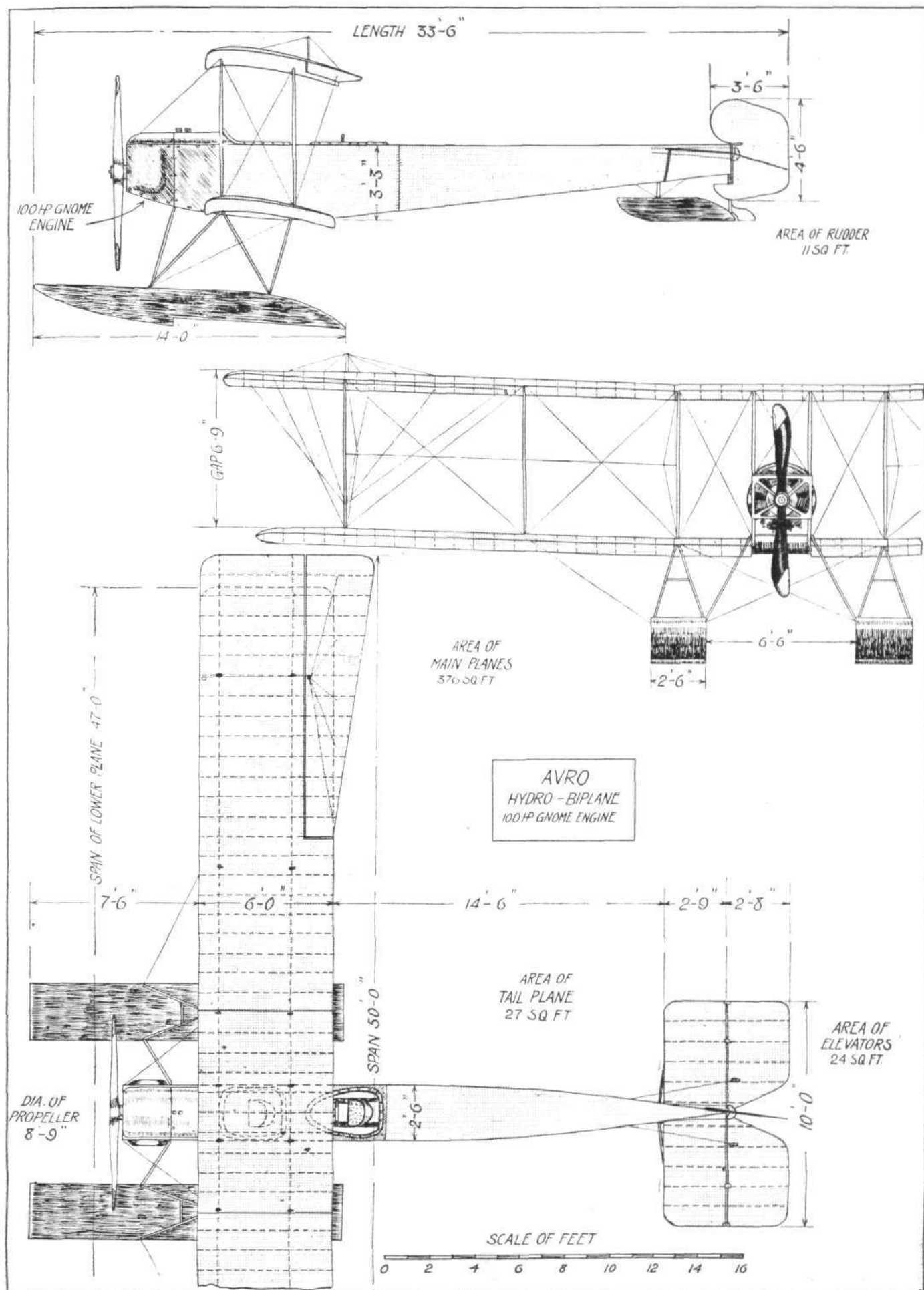


Side view of the 100 h.p. Avro hydro-biplane.

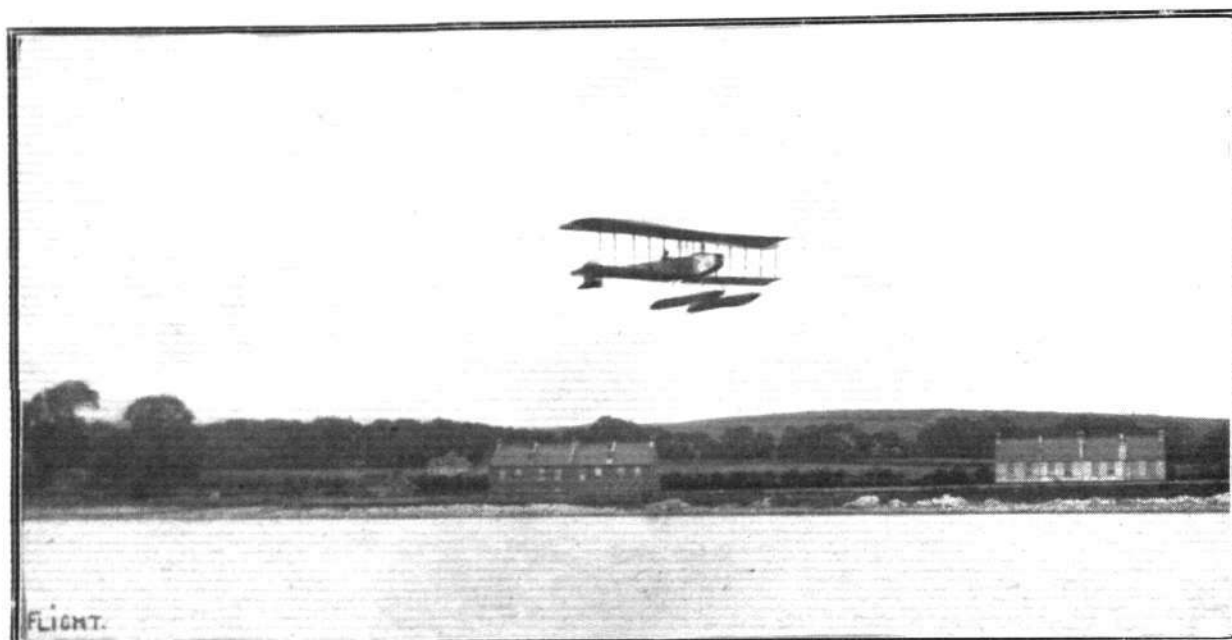
to the usual Avro type, which is already so well known in the R.F.C. It is, of course, considerably larger throughout, as is rendered necessary by the larger engine power, and by the comparative difficulty of arising from

12 ft. 9 ins. span each, increasing in chord towards the tips. These are balanced to pull up as well as down.

The body is supported from the wings in the usual Avro style, with the exception that the planes, instead



THE 100 H.P. AVRO HYDRO-BIPLANE.—Plan, side and front elevations to scale.



The 100 h.p. Avro hydro-biplane in flight.

of detaching from the body itself, detach from a fixed inner cellule having a span of 9 ft., so that the struts at its extremities are immediately above the floats.

These latter are of the pure hydroplane type with 2 steps, and are 14 ft. long \times 2 ft. 6 ins. wide, with their inner edges 6 ft. 6 ins. apart. The total buoyancy when submerged is 4,400 lbs., or twice the weight of the machine. The chassis struts are all of steel bound with varnished fabric, and are 14 in number, 7 each side, of which 6 support the cellule from the float, whilst the 7th is carried direct to the engine bearers on the *fuselage*.

The body itself is rectangular in cross-section with a horizontal top and curved bottom. It tapers at the rear to a vertical rudder post which carries the rudder, and with it a small tail float, which moves with the rudder for steering purposes. The elevators and empennage are of the standard Avro size. The pilot's seat is behind the passenger's, the latter being placed on the centre of

gravity of the machine. The engine is enclosed in the usual housing, with a wind-shield for the pilot.

The tractor-screw is an Avro with brass-capped leading edge at the tips, having a diameter of 8'9 ins. and a pitch of 6 ft. The control is by wheel and rudder bar, and is of the usual type.

The weight of the whole machine with full allowance of fuel is just under one ton, and the surface of the main planes being 567 sq. ft. gives a loading of rather under 4 lbs. per sq. ft., and 22 lbs. per h.p. This means, of course, that the machine is not a very high speed one, its estimated velocity being about 48 to 50 miles per hour. This slow speed was adopted as being more likely to be successful, considering the experimental state of our present-day knowledge of hydroplane floats.

It is interesting to know that this machine is already purchased by a private owner, and that several are already on order for the Admiralty.



VISIT OF THE SOCIETY OF ARCHITECTS TO HENDON ON SATURDAY WEEK.—On the right, the hour for tea, a view of visitors watching the flying at Hendon from the new pavilion.

"Flight" Copyright.



WEST BRIGHTON AND THE WEST PIER, BRIGHTON.—Photographs by Mr. Clarence Winchester from Mr. Eric Pashley's biplane.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Aerial Navigation Regulations.

THE Committee of the Royal Aero Club appointed the following Sub-Committee to consider what action should be taken by the Club in connection with the orders issued by the Home Office under the Aerial Navigation Acts, 1911 and 1913:—Mr. G. B. Cockburn, Mr. C. Grahame-White, Mr. F. K. McClean, Mr. Alec Ogilvie, Mr. C. F. Pollock, Mr. T. O. M. Sopwith, and Mr. R. W. Wallace, K.C.

A special meeting of the Committee of the Club was held on Tuesday, the 8th inst., to receive the report of the Sub-Committee. There were present: Mr. Roger W. Wallace, K.C., in the Chair, Mr. Griffith Brewer, Mr. E. C. Bucknall, Professor A. K. Huntington, Mr. F. K. McClean, Mr. J. T. C. Moore-Brabazon, Mr. C. F. Pollock, and the Secretary.

The Committee, after due consideration, decided that the report in the following form should be forwarded to the Home Office, War Office, and Admiralty.

Report.—Owing to complaints made by aviators, the Committee of the Royal Aero Club has investigated the working of the Regulations made under the Aerial Navigation Acts, 1911-13, and has found as follows:—

(1) That owing to the stringent enforcement of the Regulations, British Manufacturers have been prevented from carrying on their manufacture and experiments at various places which were chosen because of their fitness, but which happen to be in close proximity to Prohibited Areas.

(2) That British Aviators have been deterred from flying abroad owing to the difficulties of conforming with the requirements of the Regulations imposed by the British Government on their return journey.

(3) That owing to the impracticability of the Regulations, the Club has been prevented from organising events in connection with large prizes offered for competition amongst aviators. These competitions would have resulted in furthering the progress of the art and manufacture of hydro-aeroplanes and aeroplanes, to the manifest advantage of the Government. This has discouraged others who intended to give prizes, and in other ways prejudicially affected the industry.

In view of these circumstances, and also to modify the feeling expressed abroad that Great Britain is inimical to the advancement of the art of aviation, the Club wishes to place on record its view that the international freedom of aerial navigation is much more to the advantage of this country than of foreign nations, and recommends:—

(1) That active measures be taken to protect the interests of aviators and the industry.

(2) That the following alterations in the Regulations be suggested:—

(a) That the Home Office open a register on which shall be entered the names of approved British aviators who shall be exempt from the orders issued under the Regulations, provided that they have commenced their flight in this country and that they report forthwith all details of any flights they have made over any Prohibited Areas. The Committee is of opinion that regulations for identification can be framed to deal practically with this suggestion.

(b) That approved registered British aviators coming from abroad may pass over any of the prescribed landing areas without alighting, provided previous notice of departure from a foreign country has been given to the Home Office.

(c) That a further portion of the coast line, situated between Archcliffe Fort and Lydd Railway Station, be scheduled as a landing area.

THE ROYAL FLYING CORPS.

The following appointments were announced in the *London Gazette* of the 4th inst.:—

R.F.C.—Military Wing.—Lieut. Esme F. Chinnery, Coldstream Guards, to be a Flying Officer, and to be seconded; April 30th, 1913. Lieut.-Col. Henry R. Cook, R.G.A., is appointed to the Reserve; June 23rd, 1913.

The following appointments were announced by the Admiralty on the 4th inst.:—

Lieuts. F. L. M. Boothby, to the "Hermes," additional, for naval airship 4, in command, and as Squadron-Commander; and R. A. Wilson, to the "Hermes," additional for naval airship No. 4, as Flying Officer, to date July 3rd; W. R. Crocker and W. C.

(d) That provision be made for permitting British and foreign hydro-aeroplanes to alight on the water in convenient specified places.

(e) That the existing regulations shall not apply to free spherical balloons taking part in sporting competitions.

Public Safety and Accidents Investigation Committee.

A meeting of the Public Safety and Accidents Investigation Committee was held on Monday, the 7th inst., at 8.30 p.m., at the Royal Automobile Club (by kind permission), when there were present:—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. A. E. Berriman, Mr. G. B. Cockburn, Mr. F. K. McClean, Mr. W. O. Manning, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, C.B., Com. C. R. Samson, R.N., and the Secretary.

Shoreham Accident.—The Committee enquired into the fatal accident to Mr. R. N. Wight at Shoreham on Sunday, June 29th, 1913. Eye-witnesses of the accident attended and gave evidence. The report was drawn up and ordered to be submitted to the Executive Committee at its next meeting.

Daily Mail £5,000 Prize: Circuit of Great Britain.

The following entry for the *Daily Mail* £5,000 Prize: Circuit of Great Britain, has been received:—

The Sopwith Aviation Co.

Intending competitors are reminded that the entries close on July 16th, 1913, at 12 noon.

Full particulars can be had on application to the Secretary of the Royal Aero Club.

Daily Mail £10,000 Prize: Cross-Atlantic Flight.

The regulations governing this prize can be obtained from the Secretary of the Royal Aero Club.

Mortimer Singer £500 Prize.

News has just reached the Club of the success of the Sopwith Aviation Company in this Competition. The pilot was Mr. H. G. Hawker, on a Sopwith Tractor Biplane, fitted with 100 h.p. Green motor. The flights were made at Cowes on Tuesday afternoon, and the Official Observers of the Royal Aero Club were Mr. J. H. Spottiswoode and Mr. Howard T. Wright.

The reports of the Observers and barograph charts will be considered by the Committee of the Club on Tuesday next, and if everything is in order the Prize of £500 kindly presented by Mr. A. Mortimer Singer will be awarded.

Balloon Race at Hurlingham.

The Long Distance Balloon Race for the Hedges Butler Challenge Cup will take place to-day (Saturday) at the Hurlingham Club, Fulham, S.W., at 3 o'clock.

Members will be admitted free to the Hurlingham Club on presentation of their Royal Aero Club membership cards.

The order of start is as follows:—

Competitor.	Balloon.	Pilot.
1. Mr. James Radley ...	Dunlop, 50,000 c.f.	Mr. James Radley
2. Mr. A. P. Hohler ...	Mascot, 35,000 c.f.	Mr. A. P. Hohler
3. Mr. A. Mortimer Singer	Planet, 80,000 c.f.	Mr. A. Mortimer Singer
4. Major E. M. Maitland	R.F.C., 95,000 c.f.	Major E. M. Maitland
5. Mrs. John Dunville ...	Banshee, 80,000 c.f.	Mr. C. F. Pollock
6. Mr. John Dunville ...	Polo, 50,000 c.f.	Mr. John Dunville

166, Piccadilly, W. HAROLD E. PERRIN, Secretary.

Hicks to the "Hermes," additional for Naval Airship Section, as Flying Officer, to date June 30th.

The following were announced in the *London Gazette* of 8th inst.:—Brevet Major Frederick H. Sykes, 15th (the King's) Hussars, to be temporary Lieut.-Colonel whilst employed as Commandant. Dated July 9th, 1913.

Capt. Herbert Musgrave, Royal Engineers, to be a Squadron Commander, and is granted the temporary rank of Major whilst so employed. Dated April 30th, 1913.

The undermentioned from flying officers to be Flight Commanders: Major the Hon. Claude M. P. Brabazon, Irish Guards. Dated May 30th, 1913. Capt. William D. Beatty, Royal Engineers. Dated June 1st, 1913.

FROM THE BRITISH FLYING GROUNDS.

Brighton-Shoreham Aerodrome.

Good work has been done here during the past week by the Avro School and Messrs. Pashley Brothers. Wednesday saw the new pupil, Mr. Elliott, out on one of the Avros, and considerable improvement was noticed. Elliott shows much more skill than the average beginner, and by the time these notes appear he should be in the "straight" stage. Friday, Mr. Eric Pashley was out, as also was Mr. A. E. Geere. Mr. Pashley has a fondness for flying low, his banked turns and switchbacks becoming more and more interesting. The H. Farman is certainly a fine 'bus, and Pashley knows how to handle it. Saturday, Geere was out on the Avro with his hands still tied up, but FLIGHT correspondent reports that he is much better, having practically recovered from the shock of the late Mr. Wight's accident. Shaw was also out, and Rolshoven put up some very good flights. Mr. Eric Pashley was flying well in a fair breeze and treated the inhabitants of Bungalow Town to some excellent exhibitions. He took up one or two passengers, including the new Avro pupil.

Practice work is progressing rapidly in Mr. Gordon England's shed, and one of his machines should be ready in a month's time.

"The Chocolate Soldier"—a Blériot of doubtful age but artistic colour—will be out very shortly for rolling trials.

Brooklands Aerodrome.

During the past week the improvement in the weather conditions was fully taken advantage of by the various Flying Schools the instructors at which were busily engaged in giving finishing lessons to some very promising pupils. Mr. Merriam at the Bristol School is expecting delivery of an up to date tractor type biplane, for which further shed accommodation will be required, and at the Ducrocq School several new pupils have recently joined, who will receive instruction on new machines of a well-known type. The Vickers School is also working at full pressure.

On Monday, last week, two pupils of the Bristol School, Capt. H. H. Shott, Royal Berks. Regt., and Lieut. A. V. Newton, passed their *brevet* tests in excellent style, the former reaching 500 ft., and making a fine spiral *vol plané* in reducing his altitude for landing, whilst Lieut. Newton reached 200 ft., and landed directly on the mark.

On Friday, Mr. Merriam took up several well-known people for cross-country trips, including Lady Pretymann (the mother of an old pupil of Mr. Merriam's) and Commander Luck.

Mr. Hamel flew to Hendon on Saturday against the wind in 40 mins., returning later in 20 mins. During the motor racing in the afternoon Mr. Merriam gave some fine exhibition flights, including some of his wonderful spiral descents. Mr. Barnwell was busy with pupils. Mr. Salmel made a test flight of his new hydro-aeroplane, which was cut short by a slight mishap to the landing chassis.

On Sunday afternoon Mr. Hamel was kept hard at it until 6.30 p.m. taking up passengers amongst whom were several well-known people. Miss Teddie Gerrard from the London Hippodrome was so pleased with her first flight with Mr. Hamel that she insisted upon having a second one, in the course of which an altitude of 4,000 ft. was reached, from which height Mr. Hamel descended from the clouds by means of a very fine *vol plané* with engine shut off, his passenger meantime carrying on an animated conversation with him. When the machine came into sight again it was noticed that the propeller was quite stationary. This lady will visit Brooklands again next Sunday, when she hopes to make several more flights. Mr. Hamel regards his 80 h.p. Blériot as the finest passenger carrying machine he has ever handled, and the way it "eats space" when carrying passengers is little short of marvellous. The winner of the ballot for the free flight, Mr. E. Elms of Byfleet, who had the rare good fortune to win on a previous occasion, when Mr. Hawker took him up in the Sopwith tractor biplane, was also taken up by Mr. Hamel. It is becoming better known that flights may be booked with Mr. Hamel at Brooklands, and already several have been bespoken for next week. Mr. Merriam made some good exhibition flights with and without passengers.

Bristol School.—Bendall out for test on Monday, last week, then Lieut. Newton, Mr. Skene, and Capt. Short for figures of eight. Bendall up behind Mr. Pendlebury on straights. Mr. Grahame Harris, Lieut. Newton, and Capt. Short were out practising figures of eight. Then Lieut. Newton and Capt. Short were practising landings near a mark. Capt. Short then went for his ticket, which he took in excellent style. Lieut. Newton also went for his ticket, which he took in good style. Both these pupils made very good landings near a mark. Lieut. Morgan was making circuits.

After breakfast Bendall made a test. Mr. Grahame Harris out for figures of eight. This pupil was out again later. Bendall taxied the machine back to the sheds.

Merriam for test on Tuesday, then behind Mr. Pendlebury twice.

Merriam for another test then with Mr. Grey, and later behind same pupil, and Messrs. Bernard Howard, Pendlebury and Lieut. Lowe. Mr. Grahame Harris made a good solo. Merriam and Bendall solo each. Darkness prevented further flying.

On Wednesday Merriam for a high flight before pupils arrived, later up behind Mr. Bernard Howard on straights and circuits teaching banked turns, left and right turns, and *vol planés*. Afterwards giving Mr. Grey similar tuition. Then up behind Lieut. Lowe on straights and landing practice. Then all pupils given another turn each, after which all flying was abandoned for the morning.

Merriam up taking Mr. Skene for a good flight on Thursday. Bendall afterwards testing machine then sitting behind Lieut. Lowe on straights. Mr. Richard Powell afterwards flying figures of eight. Merriam up giving tuition to Lieut. Lowe, which finished the evening's work.

On Friday, Bendall test, then behind Lieut. Lowe on straights and circuits, and then behind Mr. Grey. This pupil for several straights alone, landing well. Merriam for test, afterwards up with Commander Luck, Lady Pretymann, and Miss Capon Thompson for passenger flights. Bendall test on another machine, but found it too windy for further flying.

Merriam test on Saturday, then up with Mr. Grey. This pupil then alone. Mr. Richard Powell for a solo. Lieut. Morgan also for a solo. Merriam behind Lieut. Lowe on straights and circuits. Then Mr. Grey another solo. Mr. Richard Powell again for a solo, flying well. Lieut. Morgan for a solo, and will soon be ready for his *brevet*. Merriam again with Lieut. Lowe on straights and circuits. Afterwards all pupils had another turn each. Merriam solo back to sheds making spiral descent at 2,000 ft. Merriam for two exhibition flights, later testing another machine. Messrs. Grahame Harris, Richard Powell, and Bernard Howard solo each. Merriam finished up with a solo reaching 2,000 ft. and flying back to hangars.

Ducrocq and Lawford School.—Sunday, last week, Lieut. Ash, who has been putting in some good practice, had to rejoin his ship. Mr. Boger joined the school on Monday evening. Maurice Ducrocq and E. H. Lawford out for an hour. Mr. Ducrocq afterwards



"Flight" Copyright.

Mr. George Grossmith at the Aerial Fête at Hendon last week, showing his little son the Morane-Saulnier in which Robert Slack flew from Paris.

taking Mr. Dennis Ware and Mr. Gaskell-Blackburn for "joy rides." Tuesday, 5.15 a.m., Ducrocq up for about 20 mins., afterwards instructing Mr. R. Boger for half an hour. D. Ware then took over a biplane for the first time, finding it very easy after a mono. More good work put in during the evening for an hour or so.

Wednesday Mr. V. Gaskell-Blackburn joined the school.

Friday, Maurice Ducrocq out in tricky wind no good for school work. Saturday evening Mr. V. Gaskell-Blackburn had his first lesson—shaping well. Mr. R. Boger getting machine well in hand.

Monday, 5.15 a.m. till 7.15 p.m. Messrs. Boger and Gaskell-Blackburn straights with E. H. Lawford.

Tuesday, Mr. V. Gaskell-Blackburn, at 6.15 a.m., out for an hour under E. H. Lawford, doing many steady straight flights. Mr. Boger and Blackburn out again for two hours in evening with E. H. Lawford.

Vickers School.—Early Monday morning, last week, Knight on biplane with Messrs. Fairfax, Newton-Clare, and Smith. Mr. Elsdon solo on biplane. Messrs. Barnwell, Mitchell, Andreae, and Orr Paterson on No. 7 mono. In the evening, Knight on biplane, with Messrs. Webb, Fairfax, and Newton-Clare. Knight, and then Messrs. Andreae, Orr Paterson, and Mitchell on No. 7 mono. Mr. Elsdon solo on biplane.

Tuesday. In the morning, Knight on biplane with Messrs. Newton-Clare, Fairfax, and Webb. Knight, and then Mr. Mitchell and Mr. Andreae on No. 7 mono. In the evening, Barnwell on biplane with prospective pupil. Knight with Mr. Newton-Clare. Mr. Elsdon solo on biplane. Barnwell and then Mr. Orr Paterson and Mr. Mitchell on No. 7 mono.

Wednesday. Knight on biplane with Mr. Newton-Clare and Lieut. Smith. Barnwell with Lieut. Smith. Messrs. Barnwell, Mitchell, and Orr Paterson on No. 7 mono. Mr. Elsdon solo on biplane.

In evening, Thursday, Barnwell on biplane with Capt. Fairfax. Mr. Elsdon solo. Knight with Mr. Newton-Clare.

Barnwell, Friday morning, testing No. 7 mono. Mr. Mitchell and Mr. Orr Paterson circuit on No. 7 mono. Knight on biplane with Messrs. Newton-Clare, Fairfax, and Smith. Barnwell solo, and with Lieut. Smith. Barnwell and Knight testing No. 2 mono. Mr. Newton-Clare having done only three or four straights solo, went away for circuits on biplane, and did them in very good style. In evening, Barnwell on biplane with prospective pupils.

Saturday afternoon, Barnwell on biplane, then on No. 7 mono. Knight on biplane with Mr. Webb.

Eastbourne Aerodrome.

Tuesday afternoon, last week, Fowler made a test flight, and was followed by Mr. Morkill, who did a couple of circuits solo. Later, the weather conditions being ideal, Mr. Morkill successfully flew his two test flights, and qualified for his *brevet*. On Wednesday morning, Fowler was out early with Messrs. Fill and Bevis, giving them each two long lessons. Gassler went up later on the school bus; Fowler was busy again in the afternoon, carrying passengers.



Mr. W. Warren, another pupil who has secured his *brevet* in good style on a 35 h.p. Caudron at the W. H. Ewen School.

Thursday morning was a blank, owing to wind, but as it abated somewhat towards evening, Roberts had another try for his ticket, this time accomplishing it; the first half being excellently flown in a rather puffy wind, and the second half under more favourable conditions. He was followed by Fowler and Mr. Fill, and Gassler ended the evening's work with a solo. Nothing was possible on Friday morning, but Messrs. Bevis, Fill and Fry each received two lessons during the evening, and Gassler was out again on the Bristol. Satur-



Lieut. R. C. H. Bewes, who recently passed his *brevet* tests on a 35 h.p. Caudron biplane at the W. H. Ewen School, Hendon, in a brilliant manner, after only four weeks at the School.

day morning showed signs of being fair, and Fowler took Mr. Fill up for a couple of circuits, but nothing more was possible until evening, when Friday evening's proceedings were repeated. Thunder and rain effectually prevented anything being done on Sunday. Monday morning Fowler had Mr. Fill up for a couple of circuits and then sent him for a solo. He flew two circuits in excellent style, but finished up in a rather alarming manner, descending very abruptly from about 200 ft., he landed at a great pace and very heavily, demolishing the propeller and landing chassis. The smash was soon repaired and another engine put in, and the bus is now ready and awaits weather conditions to be out again none the worse for its bumping.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Captain Boddam-Whettam out at 4.40 a.m. on Monday, last week, practising solo straights for 15 minutes, on No. 7, under Instructor Cheeseman. Lieut. Eales and Mr. H. B. Russell also doing straights, with instructor. Pupils continued getting good practice all the morning, and again in the evening. Sir A. Sinclair out at 8.45 p.m., doing circuits and figure eights, under the superintendence of Instructor Manton.

Captain Boddam-Whettam doing straights next day, at 7.20 p.m. Mr. H. B. Russell, straights with Instructor Manton in passenger seat. Mr. R. H. Carr doing circuits.

Wednesday, Captain Boddam-Whettam out at 4.30 a.m., doing straights, also Lieut. Eales and Mr. H. B. Russell.

Captain Boddam-Whettam practising straights for three-quarters of an hour Thursday. This same pupil again doing good work in the evening.

Captain Boddam-Whettam again first out Friday, at 4.50 a.m., in slight fog, followed by Lieut. Eales at 5.30, both getting good practice all the early morning.

Saturday, Captain Boddam-Whettam out at 6.20 a.m., on No. 109, doing straights and circuits. Mr. Russell doing straights with instructor.

British Deperdussin School.—Saturday last, Murray rolling on No. 1 taxi. Mr. Mahla (new pupil) had first lesson in controls. In afternoon Mr. Brock passenger-carrying on 100 h.p., then entered 100 h.p. in cross-country race carrying lady passenger. Missed the turning point and so was out of the race. Later Mr. Brock entered 35 h.p. in speed handicap, coming in third. Mr. Brock busy all Sunday afternoon taking passengers, including two ladies, in 100 h.p.

W. H. Ewen School.—On Monday, last week, the school was out at 4 a.m., under the instruction of Mr. L. W. F. Turner and M. Baumann. Mr. Turner, after test flight on 35 h.p. Caudron No. 1, handed machine over to Messrs. Warren and Goodden, who were doing circuits and figures of eight. M. Baumann made a test flight on 35 h.p. Caudron No. 2, and then handed machine to Mr. L. A. Strange, who was making good progress in rolling. Mr. A. L. Russell made flights on same machine. M. Baumann was also up on 35 h.p. Caudron, climbing to a good height and finishing with spiral. During the afternoon Mr. Turner was again out on 35 h.p. Caudron No. 1, after which he handed machine to Messrs. Warren and Goodden, who were doing circuits. M. Baumann was also on 35 h.p. Caudron No. 2, when he made a long flight, finishing with spiral glide. At 6.30 p.m., the school was again out, Mr. Gist doing circuits, Messrs. A. L. Russell and T. H. Bayetto some good flights, and Mr. Strange rolling on same machine. At 5.5 p.m., Mr. Sydney Pickles started from Crotoy with a passenger on a new 80 h.p. Caudron hydro to deliver to the Admiralty Station, Isle of Grain. Flying at an average altitude of 3,000 ft. he arrived at Sheerness harbour at 9 p.m., after making one stop at Margate.

Tuesday morning was too windy for school work. Mr. L. W. F. Turner made a flight on 35 h.p. Caudron No. 1, to Welsh Harp, at 5.40 p.m. He afterwards made another short flight, and then handed the machine to Messrs. W. Warren and Gist, who were doing circuits, and F. Goodden, who made a short flight. Later, Mr. W. Warren went through the tests for his *brevet* in good style, rising to 200 ft., and landing near the mark. Mr. Turner then made another flight. M. Baumann was out at 6.30 p.m. with pupils. After test flight on 35 h.p. Caudron No. 2, he handed the machine to Mr. L. A. Strange, who was hopping and making short straight flights. Messrs. H. Stewart and T. H. Bayetto both made short flights of about 5 minutes each.

The pupils were out at 4.10 a.m. on Wednesday. After test flight by M. Baumann on 35 h.p. Caudron No. 2, he handed machine to Messrs. L. A. Strange and L. H. Jagenberg, who were making short flights. Messrs. Stewart and Russell doing circuits.

On Thursday, it was again too windy in the morning for pupils. During the afternoon, Mr. L. W. F. Turner and M. Baumann were doing exhibition work. At 7.20 p.m., the school was out under the instruction of M. Baumann. After test flight on 35 h.p. Caudron No. 2, he handed machine to Messrs. Strange and Gist, who were doing s'raights and circuits. Mr. F. W. Goodden also made a flight.

School out at 4 a.m. on Friday, when M. Baumann, after test flight on 35 h.p. Caudron No. 2, handed machine to Messrs. Jagenberg and Strange, who were making good progress in straights.

On Saturday, the pupils were out at 4.15 a.m. M. Baumann, after test flight on 35 h.p. Caudron No. 1, handed machine to Messrs. Dalrymple-Clark and L. A. Strange, who were both doing straight flights in good style. Later, M. Baumann was again out with same pupils, doing straight flights.

At 4.10 a.m. on Sunday, the school was out under the instruction of M. Baumann. After test flight on 35 h.p. Caudron No. 2, he handed machine to Messrs. Dalrymple-Clark and Jagenberg, who were making short flights in good style.

Salisbury Plain.

Bristol School.—On Monday, last week, Busted test tractor biplane. Pixton with Capt. Popovici and Lieut. Pascanu on biplane. Pizey monoplane tuition to Major Hewetson, and biplane tuition to Lieut. Beroineade. Excellent biplane solos by Lieut. Osmond, R.N. (three), Lieut. Miley, R.N. (three), Lieut.-Col. Hamilton (two), and Air-Mechanic Pratt (three). On monoplanes, Mr. Garnett, Capt. Popovici and Lieut. Beroineade one each, Lieut. Pascanu (two). Mr. Hewetson and Delaplane each good monoplane solos, and all practically ready for *brevets*.

Pizey on biplane in the evening with Lieut. Stevenson and a prospective pupil Lieut. Spencer, R.H.A. Later with Capt. Richy on monoplane and Pixton with Lieut. Stevenson on biplane. Lieut.-Col. Hamilton successfully passed the tests for his *brevet*. Busted two trips in Bristol tractor biplane, whilst good monoplane solos were made by Major Hewetson and Mr. Garnett, Capt. Popovici, Lieut. Beroineade and Lieut. Pascanu, and on biplanes Lieut. Osmond, R.N., Lieut. Miley, R.N., Capt. Barnby (two) and Lieut. Orton. Later Mr. Garnett good monoplane solo followed by Major Hewetson. On biplane good solos were made by Lieut. Osmond, R.N., Lieut. Miley, R.N., Lieut. Orton and Capt. Barnby. Lieuts. Osmond and Miley each went for their *brevets*, and passed successfully, flying high and making good landings. Capt. Barnby passed the first half of his ticket. Pixton gave biplane tuition to Lieut. Stevenson, and later took this same pupil and Capt. Richy for a trip in monoplane. Sippe with Mr. Garnett for test. Pizey and Busted tested new biplane.

On Tuesday Pizey and Capt. Richy on side-by-side. Pixton with Lieut. Stevenson for tuition on biplane. Pizey later testing air. Busted for a test on tractor biplane.

Pizey out for a trial. Lieuts. Orton and Stevenson each did a solo, and Capt. Barnby finished the second half of his ticket. Air-Mechanic Pratt passed the first half of his certificate, flying high and well. Pizey tested a biplane. Pizey gave biplane tuition to Lieuts. Beroineade and Pascanu.

Pixton gave long tuition flight on Wednesday to Lieut. Stevenson with several landings. Pixton with Capt. Richy on biplane. Lieut. Stevenson first solo in excellent style. Lieut. Orton 3 solos on biplane, and later Lieut. Stevenson another solo.

Pixton, on Thursday, gave a trip to Capt. Richy. Busted with Lieut. Orton on monoplane. Lieut. Stevenson for a solo on biplane. On monoplanes, solos were made by Lieuts. Pascanu and Beroineade, Major Hewetson, Mr. Garnett, and Mr. Delaplane. Pizey solo on biplane. Pixton with passenger for a flight. Air-Mechanic Pratt went for the second half of his *brevet*, and passed excellently, making good banked turns. Lieut. Stevenson for two further solos on biplane. Busted with Capt. Richy in the mono. Monoplane solos by the following pupils: Lieut. Pascanu, Lieut. Beroineade, Major Hewetson, Capt. Popovici, Mr. Garnett, and Mr. Delaplane.

On Friday solos on monoplane by Capt. Popovici (two), Mr. Delaplane (one). Lieuts. Beroineade and Pascanu were sent for their *brevets* on a monoplane and passed successfully. Capt. Richy was given a long tuition trip by Pizey, and afterwards this pupil made a solo. Lieuts. Beroineade and Pascanu and Capt. Popovici with Pizey on biplane for several trips. Busted three trips on tandem monoplane, afterwards testing another machine. Capt. Popovici and Mr. Delaplane each for a solo. No flying possible after this.

Busted three tuition trips on Saturday to Capt. Richy, and Mr. Garnett made a solo on same machine. Rather bumpy.

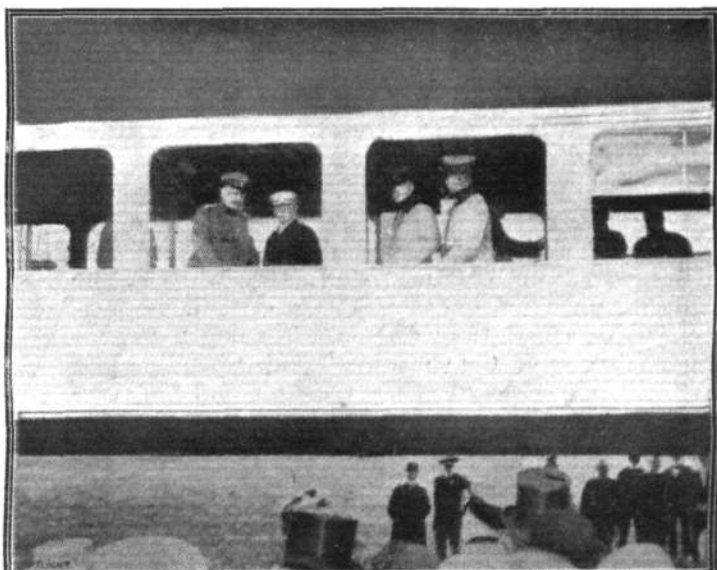
Royal Flying Corps. 3rd and 4th Squadrons (Mile Ball).—On Tuesday evening of last week, a good deal of scouting practice was carried out. Lieut. Wadham made three flights on the Avro. Lieut. Conran and Lieut. Joubert de la Ferte two each on 290. Capt. Allen and Lieut. Porter on BE 203. Lieuts. Abercomby and Burrows on 285. Lieut. Roupell two on 286.

Wednesday morning Lieuts. Joubert de la Ferte and Roupell were out early on 286. Two flights were made by Lieut. Wadham on Avro, Lieut. Conran on 288, two Capt. Fox on Blériot 221, Major Brooke-Popham on 290, Lieut. Carmichael on 284, and the other officers out were Lieuts. Abercomby, Burrows and Chrystie.

On Thursday Capt. Fox made three flights on Blériot with Lieut. Wadham as passenger. Lieut. Carmichael was up four times on 284, with Capt. Foresight as passenger, Sergt. Bruce on 290, Lieut. Conran on 288, Lieut. J. de la Ferte on 290, Lieut. Wadham on Avro, Lieuts. Burrows and Abercomby on 285.

Friday Lieuts. Carmichael, Burrows and de la Ferte made several trips on 285.

On Saturday Lieut. Hubbard arrived from Farnborough on H. Farman 352. In the mist and rain on Monday Major Brooke-Popham, with Lieut. Hubbard as passenger, observed the firing practice around Newfoundland Farm on H. Farman 352. After a trial flight, Lieut. Carmichael with Lieut. Chrystie as passenger on 284, observed some firing practice around Knighton Downs. Lieut. Chrystie and Major Brooke-Popham were subsequently up on BEs, while Lieut. Wadham was flying an Avro.



At the trial trip of the great Zeppelin dirigible "Sachsen" in Leipzig.—From left to right, King Frederick Auguste, Count Zeppelin, the Crown Prince of Saxony, and Prince Christian of Saxony.

ARMCHAIR REFLECTIONS.

By THE DREAMER.

Muddled Administration.

I AM never at a loss for something to reflect upon when I think of the Aerial Navigation Act of 1913. I have spoken to one or two French pilots whom I happen to know, and have tried to find out from them what our friends in aeronautical circles over the "ditch" think of the whole affair, and so far as I can gather they don't think much about it at all, except to treat it as a big joke.

I am quite sure very few of them really know where they may come, and where they may not, and when they want to fly into England, they simply sail over, and come in just where it happens to suit them, which is, perhaps, the best thing to do under the circumstances, as avoiding having to come over here and study the geography of our land before making a flight. What I am afraid of is that some day one of them will really get fined pretty heavily, as a reminder to the others that, in this country, when we make laws they must be obeyed, at any rate up to the time when, realising the silliness of them, we set about altering them. But the visitor to our shores has got little to grumble about, as up to now they have all been treated quite nicely. A little while ago, when Brindejone came over, he was treated at Bow Street to a little fatherly advice, and told not to do it again, or to be more careful in future, or something of that sort, and now Levasseur has simply blundered in and flown, not over one prohibited area but over about all we have, in that quarter at any rate.

Starting from Meulan, on the Seine, they—he and his passenger—left the French coast at Calais, and taking the long route, flew to Margate and thence to Blackwall, meanwhile passing over all the places they ought not to have done. Arriving at Blackwall they, no doubt, thought how kind the English people were, as the River Police kindly helped them to moor their Nieuport to the police jetty, and took charge of it till after the inevitable appearance at Bow Street, with the inevitable "don't do it again" lecture. The real point is that whilst all this nonsense is going on—to the great joy of our cross-Channel friends—the English industry of waterplane building is being seriously discouraged, although all will admit this is England's most serious thought in the way of aerial defence. The act was designed to protect England from the espionage of foreign airmen; what it really does is to forgive the foreigner, and prevent Englishmen from flying over their own waters. The *Daily Mail* £5,000 Round Britain race is due to start on August 16th, but up to now the War Office has not decided as to whether it will allow Southampton Water to be the starting place. Perhaps after somebody or other has visited the spot in the "Enchantress," which has been somewhat neglected lately, we shall get permission all right, but these things take time—and tape. I do hope that those who are building waterplanes in anticipation of the race, won't find, when finished, that they have no water to place them on, and that they will be glad to sell them cheap to those that have, because that would not look at all well. An organised slump in waterplanes is quite a different thing from a slump in wheat.

The Problem Solved.

I see a Mr. Parsons, of Hull, claims to have solved the problem of aerial navigation, according to the *Eastern Morning News*. Surely we live in a great age, and in one that is full of possibilities and surprises, not to say

rude awakenings. I had thought when I read the other day that Brindejone had returned to Paris after flying some three thousand miles over practically all the countries of the north-west of Europe, that aerial navigation had been solved before to some extent. Now I am not going to say anything against Mr. Parsons or his invention. Time was, when the world at large thought the late Wilbur Wright was a crank, later the world learnt to appreciate him at his true worth. So Mr. Parsons may have something up his sleeve of great importance for all I know to the contrary which, although not being quite able to claim to have completely solved the problem of aerial navigation, may yet be something of importance to the art. He says, according to the paper, that he pursued his studies by watching the crow fly. Now here at least he had a great master. The crow is a most wonderful bird, and if he can make his "combination of ornithoptic and hydro principles" perform anything approaching the slow and easy, though wonderfully accurate flying of these birds, he is on a good thing. "Without going too closely into the matter" (sounds further North than Hull) Mr. Parsons puts it that "by employing the above principles he would get a machine that would rise vertically from the ground, and descend the same way." The latter part of the problem is the one I should advise Mr. Parsons to give most thought to at the present moment. I take it that he means descends vertically, with all due decorum. I have seen one or two machines after this type, that descended vertically all right, but they have mostly been in such a hurry to show off their abilities in this direction, that the exhibition became unseemly.

I see Mr. Parsons says he has "been experimenting for some years," and that he "has come to the conclusion that the whole of the plane principle is unstable." Now, reading between the lines, I can plainly see that he is quite aware that navigation, as regards a machine in the air, does not mean the going up and coming down, vertically or otherwise, but being able to really navigate the vessel to places where he wishes to go, and in saying that planes are unstable, there is the hint that he intends to substitute something to replace these, up to now, very necessary adjuncts to a flying machine. To build a machine that will rise vertically into the air is a reasonable proposition, to say nothing of coming down again in the same manner, but to be able to remain aloft and steer a set course without planes of some description, is quite another matter. However, no doubt this is a part of the machine which Mr. Parsons does not wish us "to look too closely into," so I can only hope that some day I may have the pleasure of seeing it fly, and do all that the inventor thinks that it will do, when I shall have much pleasure in raising my hat to a great man and a wonderful machine.

The Ubiquitous Aeroplane.

It is not often that I read the articles in the daily papers describing the dress worn by the bride in the society weddings that frequently take place in this little town of ours. The other day, however, my eye was caught and held by an announcement that the bride "wore a beautiful dress of aeroplane silk."

I believe the description of brides' dresses is confined to the lady journalist, for the simple fact that poor man would get into a most hopeless muddle were he to try to describe to lady readers exactly how the bride was clothed. Personally I know I should make a hash of it,

and for that reason I have always been quite agreeable to leave it to the fair sex, but if things progress in this direction, I can quite see that some day when one of our celebrated pilots takes the fatal step, I may be called upon to report the wedding, including a description of the bride's dress, and I am wondering what sort of a mess I shall make of it. The language used would, of course, have to be strictly aeronautical, and I should probably write something like this:—

On the 14th inst., at the hangar in — Square, were joined together Mr. — and Miss —. The monoplanes arrived on separate trolleys, and in a very few minutes departed as a biplane on a single trolley. The arrangements for transport were excellent, and a reception was afterwards held at the shed of the bride's parents in — aerodrome. The pilot wore ordinary clothes as usual, and ran smoothly during the whole journey, with



QUESTIONS IN PARLIAMENT.

IN the House of Commons on the 2nd inst. Mr. Fell, on behalf of Mr. Joynson-Hicks, asked whether any and, if so, how many permanent officials had been appointed in the Royal Flying Corps, in accordance with Clause 51 of the Monoplane Report, for the purpose of inspecting and reporting on the aeroplanes at regular intervals.

Mr. Tennant (Under-Secretary for War): It is considered that the appointment of officers with the sole duty of inspecting aeroplanes might lead to a divided responsibility, and therefore to less efficient inspection. The officers commanding squadrons and flights are held responsible for the fitness of the machines under their charge, and careful and minute inspections are constantly carried out by them.

Mr. Arthur Lee: May I ask whether a minute and complete inspection was made by the officer in charge of the aeroplane which was wrecked at Montrose?

Mr. Tennant: I believe that is so.

Mr. A. Lee: Then why was not the defect discovered?

No reply was given.

Mr. Fell further asked whether the Secretary for War had yet appointed an inspector of engines in the Royal Flying Corps in accordance with Clause 52 of the Monoplane Report; and, if so, what was his name, rank, and salary?

Mr. Tennant: The answer is in the negative.

On Monday Mr. Joynson-Hicks inquired whether aeroplane BE 205, upon which Lieut. Arthur was killed on May 27th, had been overhauled in the Royal Aircraft Factory as recently as February last.

Col. Seely replied that in February this machine was brought to the factory to have a speed indicator clip fitted. The aeroplane was thoroughly overhauled and adjusted at the same time.

Mr. Joynson-Hicks asked the Secretary for War how much of the £285,000 provided in the Estimates for this year for the purchase of aeroplanes, mechanical transport, stores and material had been expended; and whether he was yet in a position to give details of such expenditure.

Col. Seely: I am not in a position to give the information asked for.

On Tuesday Capt. Faber asked the Secretary of State for War whether the Cody biplane, from which Mr. Harrison was killed, had been ordered to be overhauled and recovered; whether, owing



ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE summary of work for week ending July 4th:—

No. 1 (Airship) Squadron. Farnborough.—The "Beta" and "Delta" were out almost daily during the week. On the 1st the "Delta" flew to Chilham, near Canterbury, and when returning stayed the night at Redhill, completing the journey to Farnborough the following day in a heavy rain. On the 4th the "Beta" made 12 training ascents, including one to Warfield and return.

No. 2 Squadron. Montrose.—During the week a large number of training and reconnaissance flights were carried out by the Officer pilots of this squadron. The total distance travelled for the week being 1,290 miles.

the exception that he missed fire for a moment when feeling for the ring, which happened at the moment to be in the possession of his propeller Mr. —. The bride looked beautiful in a dress of pegamoid creme-de-fabric satin, trimmed on the trailing edge with Caudron blue dope, and carried a magnificent bouquet of Gnome and Anzani lilies. Her dainty feet were enclosed in nacelles of aluminium-a-la-Coan cast on the monobloc principle, and she, and her mechanics, wore lovely bracelets of gold, given as shock absorbers by the pilot. The bride's veil of old Limerick four-point-seven lace was much admired, and was that worn by her mother when she also crossed the channel.

All fees, including insurance, third party risks, and breakages (if any) were settled by Mr. —, the propeller. The honeymoon will be flown in Switzerland, after which their town hangar will be in — aerodrome.



to a review taking place, the machine was wanted before the repairs had been executed; and whether its condition had been reported as precarious previous to the review.

Col. Seely replied that the biplane had been overhauled by the maker shortly before the accident took place. The answer to the second part of the question was in the negative. The accident had no connection whatever with any review, and he had no information as to whether the machine had been ordered to be recovered.

Mr. Wing asked the Secretary for War if his department was in possession of eighty aeroplanes capable of flying fifty miles per hour at a height of 3,000 ft., and whether any member of that House had had the opportunity of verifying the above number of aeroplanes, their speed, and height of flying.

Col. Seely: The answer to this question is in the affirmative.

Mr. Wing: Has any member of this House been invited to see these aeroplanes?

Col. Seely: I have invited two hon. members, and, indeed, I invited all of them to see what could be seen without detriment to the public interest; but I have not had the result of their inquiry.

Mr. Wing: Has Mr. Joynson-Hicks seen the machines?

Col. Seely: I understand he has seen some of them, but I do not know whether he has completed his tour.

In the light of Col. Seely's answer to Mr. Wing the following statement by Mr. Joynson-Hicks is suggestive and significant:—

"My attention has been called to the question asked in the House yesterday by Mr. Wing as to whether I had seen the alleged 80 Army aeroplanes, and Col. Seely's reply that he did not know if I had yet completed my tour.

"My tour has been completed some time ago, but in his letter of June 9th Col. Seely asked me for an assurance 'that you will not make public any information you may become possessed of by reason of these visits, except by such statements in Parliament as you may think necessary.'

"That assurance I, of course, gave, and I have been waiting for the Army Estimates to be put down in order that I might make my report direct to the House.

"I hope that, as I have been waiting so long, these Estimates will not be put down for another week or two, as, while I am confined to bed, and so long as I am fettered by that pledge, I cannot otherwise make public the results of my inquiry."



No. 3 Squadron. Netheravon.—During the week most of the Officer pilots were out on BEs, Avros, and M. and H. Farmans, including three cross-country flights and two flights observing Artillery Fire. "C" Flight at Lydd put in some useful work in the observation of Artillery Fire.

No. 4 Squadron. Netheravon.—On June 28th and 30th and July 1st, 2nd and 3rd most of the pilots were out on reconnaissance training.

Flying Depot, Farnborough.—The M. and H. Farmans used for experimenting purposes were out a good deal during the week. Lieut. Hubbard carried out a cross-country flight to Southampton.

FROM PARIS TO LONDON IN A NIEUPORT WATERPLANE.

By JULIEN LEVASSEUR.

AT three o'clock on Wednesday morning last week, on the banks of the Seine at Meulan, my passenger Rougerie and myself were giving the finishing touches to our 100 h.p. Nieuport waterplane, getting ready for the start at 4 o'clock.

A thick haze covered the river, and there was indication of a fog in the air, but this did not deter us in any case from starting, as we thought it would lift up pretty soon.

While surveying the filling of our tanks with 140 litres of petrol and 40 litres of castor oil, we were disturbed by a gentleman, whom we afterwards found to be a chemist in the town, and who, without any preliminaries, insisted upon our giving him testimonials to the effect that his tonic wine had been found very beneficial by us. In generous mood, we gave him a testimonial, without thinking that we had never tasted his wine, and, thanking us for the letter, he also in generous mood went so far as to promise to send us each a bottle of the famous wine upon our safe return.

We ultimately got ready, and started in fog at five minutes past four.

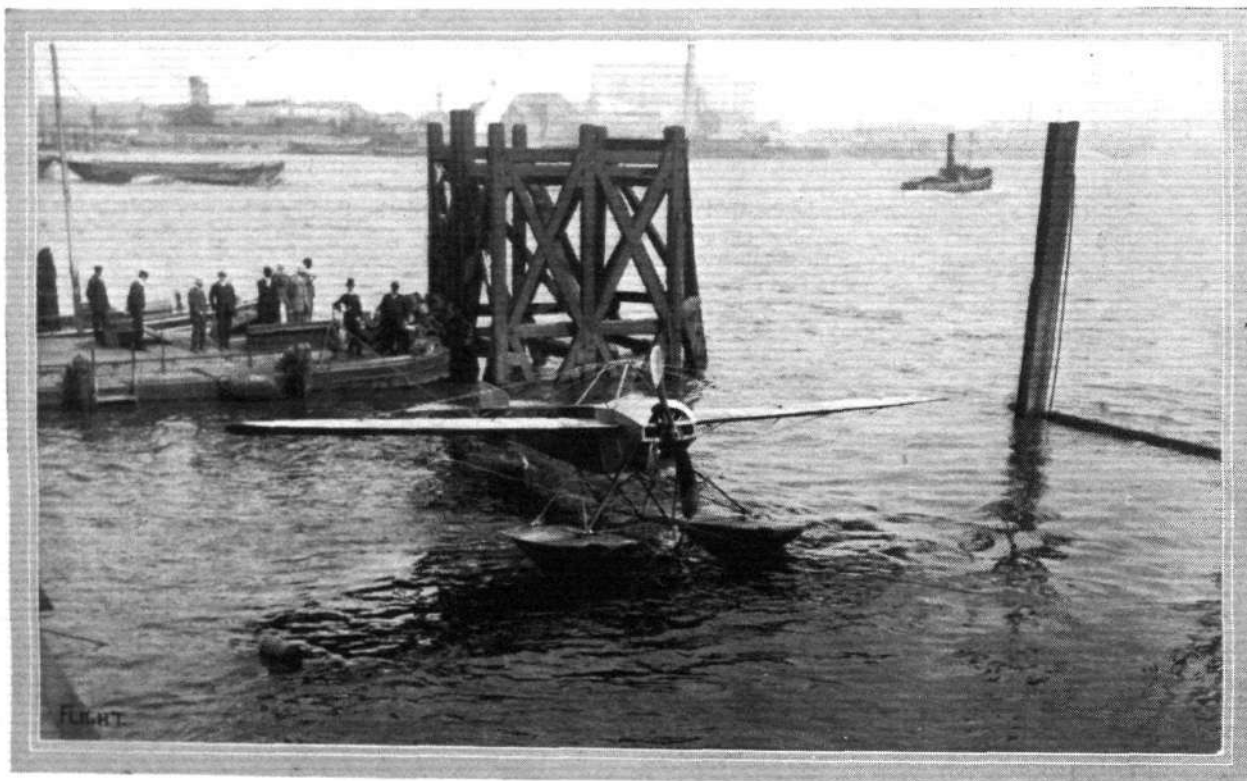
We climbed to about 3,000 ft. in a short time, and found that although we were above the fog, we could not distinguish the river at all, and had to plane down repeatedly to find our course following

Descending at Woolwich—as we knew we should not fly over London, and there our knowledge of the law ended—we skimmed along, until we got to Blackwall, our Nieuport and Gnome working perfectly, and tried to moor along the pier, where we were helped by the River Police, to whom our thanks are due for the care with which they assisted us in mooring our machine.

We left our Nieuport there, and took a taxi with an inspector to help us find the way to our friends, Messrs. Picard and Worms in the City, where we arrived looking very disreputable, covered as we were with oil from head to foot. We hurriedly had some refreshments, bought new clothes, and came out of our hotel looking once more respectable.

Our friends were then rung up by the Thames Police, who had actually taken charge of the machine, asking us to help them to moor it to a safer place, as there was danger of the barges, going into the docks near by, fouling our craft.

We got down to lovely Blackwall through the East End at 10.30 p.m., and for two hours tried to manoeuvre with a dinghey between the crafts to moor the machine, which we towed into the Blackwall Thames Police Enclosure where it was protected on every side, and where it actually lies at the time of writing.



M. LEVASSEUR'S NIEUPORT "IN CUSTODY" AT THE THAMES POLICE STATION, BLACKWALL.—
On the pier are the pilot, M. Levasseur, his passenger, M. Rougerie, Mr. Harold E. Perrin, Secretary of the Royal Aero Club, &c.

"Flight" Copyright.

the river. When we reached Havre we hugged the coast until we got to Fécamp, where my brother was waiting for us and had seen that all the arrangements were made for replenishing our tanks.

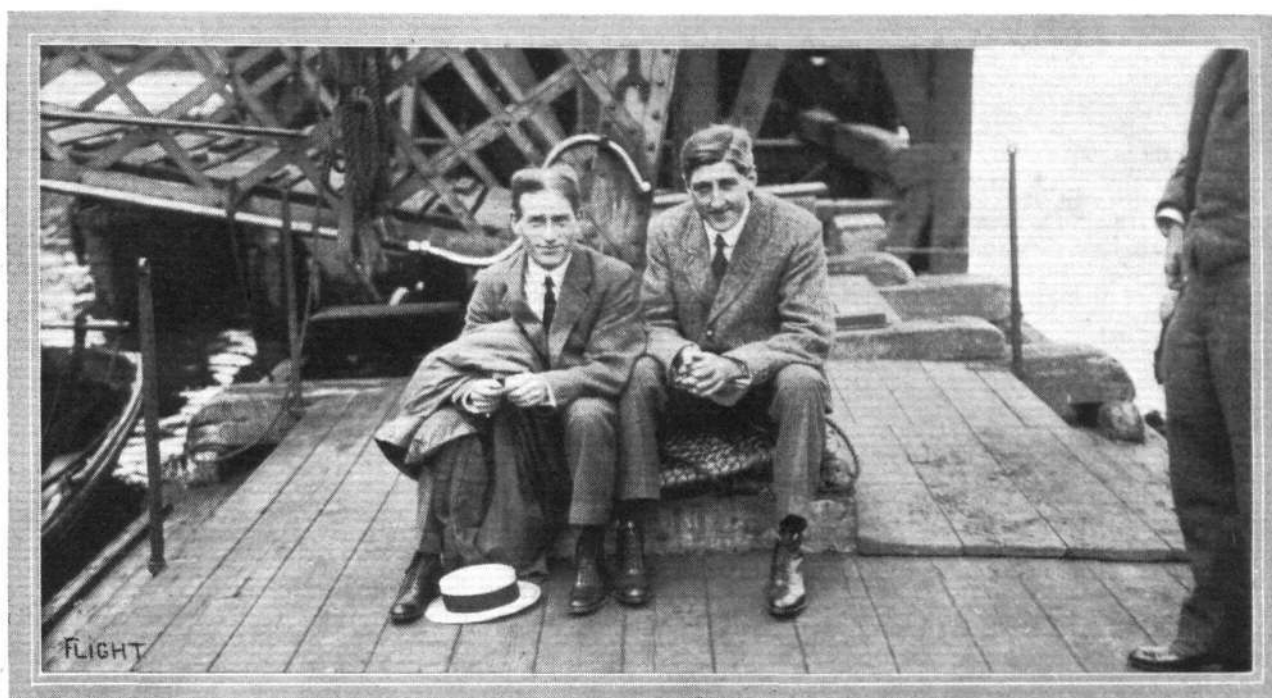
The trip to Fécamp took us 1 hr. and 55 mins. We were at Fécamp 45 mins., and left at 10 mins. to 7. From thence we flew on to Calais, where a mechanic was waiting for us in charge of the petrol and oil arrangements, and where we had a much-needed rest from 9.5 until 10.35. The wind over the Seine and along the coast was extremely strong, and blowing in gusts, which called for continual work on my part. Fortunately, we left the fog behind at Havre, and the weather was beautiful when we left Calais, with a strong wind blowing across.

We took the long sea passage from Calais, and headed direct over to Margate. For over an hour we flew over the sea, and then went along the river Thames, and while doing so, innocently committed several offences in flying over prohibited areas, the first news of which we learnt when we reached our friends in London, as we had not the least idea that there was any trouble to be expected in flying over from France to England.

After a consultation at the Royal Aero Club with Mr. H. Perrin, whose courtesy we very much appreciate, we decided that, having broken several regulations which we did not know of, we would call and tender our apologies to the Home Office, which we did the first thing next morning. Although we think that the spirit in which our apologies were offered was appreciated, the same afternoon I received two summonses to appear the next day at Bow Street, where Sir John Dickinson emphasised strongly to me the meaning of these Aerial Navigation Acts, my friend Mr. Max Worms acting as interpreter of the words of the magistrate, and I had to pay the costs of the prosecution, and was bound over to come up for judgment if called upon within 12 months in the sum of 1,000 francs.

Thus ended my uneventful journey from Paris to London with my friend and passenger Rougerie.

After the flight we had both of us for some hours afterwards the buzz of the engine in our ears. This was an obsession with both Rougerie and myself, so that while we were lying in bed, tired and half asleep, it seemed to us that we were still flying and the engine was not missing, and the flight was progressing satisfactorily . . .



"Flight" Copyright.

M. Levasseur (on the right), and his passenger, M. Rougerie, on the pier of the Thames Police Station at Blackwall, cogitating over their fate for having infringed the British air regulations.

I have nothing but praise for the Nieuport machine which carried us, and which answered admirably upon any and every occasion, whether for rising from the water or landing, and we had, moreover, no trouble whatever with the Gnome engine from beginning to end.

As regards this latter point, we find that some daily papers had fanciful reports to the effect that we were obliged to come down owing to trouble with the engine, and afterwards disappeared.

To these reports, needless to say, we wish once again to give a most emphatic denial.

M. Levasseur at Bow Street.

AT Bow Street Police Court on Friday last week, M. Julien Levasseur was summoned for contravening orders of the Home Secretary made under the Aerial Navigation Acts, 1911 and 1913, by navigating a hydroplane over an area within three miles of Barking Creek mouth, and, further, for failing to send to the Home Office the statutory particulars before commencing a voyage in an aeroplane to the United Kingdom.

Mr. Muskett on behalf of the police said that in passing from the neighbourhood of Paris to London in an aeroplane, the defendant passed over six or seven prohibited areas. In fact, he had broken nearly every regulation made by the Home Secretary, and seemed to have done everything he ought not to have done. After coming by way of Margate he flew up the Thames and passed over Barking Creek at a height of about 400ft. That was an extremely important area, because it included Woolwich Arsenal, the dockyards, and many of our powder magazines. The defendant had given no notice of his intended flight to England. At about five o'clock in the evening on which he arrived in England the following telegram, in French, was received at the Home Office: "We learn that it is forbidden to arrive near London without special permission of the Home Office. We inform you that our pilot, Levasseur, left Paris this morning, and will arrive probably this evening in the neighbourhood of London. Pray give us authority. Establishment Nieuport." That notice was rather late in the day. If it had been sent in time to the English authorities they would, no doubt, have given the defendant every facility in their power.

Mr. Walbrook said that, on behalf of the defendant, he wished to apologise in the fullest possible way for his breach of the regulations. The defendant was only twenty-five years of age, and did not speak the English language. Unfortunately, the English regulations were not so widely known in France as they ought to be. The defendant had a vague idea that London was a place he ought not to fly over, but that was all. He would now do his best to make himself acquainted with the English regulations, and to make them known in France as widely as possible.

The Magistrate informed the defendant that it was only about two months ago since he had a similar case before him. He explained to the then defendant what it was necessary to do in matters of this kind in order to conform with the English law and regulations. The defendant had admitted that he had committed a breach of the regulations, but he (the Magistrate) quite believed that he was ignorant of them. He suggested that in future these regulations should be exhibited in large establishments in France and elsewhere, and distributed among men who were likely to make aerial passages to England. Breaches of the English regulations could not, and would not, be allowed, but in the circumstances the defendant would only be called upon to pay £5 5s. costs, and be bound over in 1,000 fr. to come up for judgment if called upon within twelve months.

Mr. Walbrook said the defendant wished to express his appreciation of the courteous way he had been treated by the Magistrate. He would do his best to make the regulations known as far as possible in France.

The Magistrate: I accept that with pleasure.

Mr. Walbrook said the defendant wished to fly back to Paris, but he would give notice to the Home Office, and take care not to disregard the regulations.

Returning Home via Rotterdam.

LEVASSEUR and his passenger left Blackwall at 4.22 on Wednesday morning; and will it be believed, in view of recent treatment of British subjects by the authorities, that he was officially permitted to fly down the Thames? Can official blundering go much beyond this? After making his way to the Thames Estuary, M. Levasseur flew along the Kent coast for some way, and then struck across the Channel. The fog rendered this part of the trip none too easy, but the Nieuport eventually arrived at Dunkirk at half past seven. After replenishing his fuel and oil tanks, and also attending to the wants of the inner man, M. Levasseur and his friend started off again, and following the French and Belgian coasts, reached Rotterdam at 1.30 p.m.

East Africa to Present an Aeroplane.

FROM Nairobi comes the news that, with the object of purchasing an aeroplane for presentation to the British Government, a sum of £1,000 has been subscribed by the residents in British East Africa.

The "Hermes" to Visit Yarmouth.

ON Monday, H.M.S. "Hermes," the parent ship of the R.F.C., Naval Wing, left Sheerness for a week's duty along the East Coast, with Yarmouth—where there is now a naval aviation centre—as her base.

SKIMMERS AND HYDRO-AEROPLANES.*

THEIR LONGITUDINAL STABILITY.

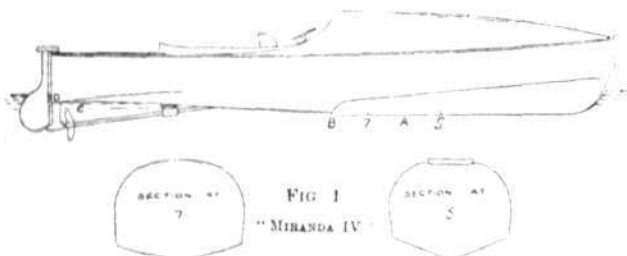
By J. E. STEELE B.Sc

SKIMMERS and hydro-aeroplanes are of such growing interest to the naval architect, that even the following short notes on the longitudinal stability of such craft may not be out of place here.

The investigation is limited to the consideration of the longitudinal stability of the machine—classing skimmer and hydro-aeroplane under the one heading—when wholly or in part water-borne. This is the case all the time with the skimmer, but only part of the time with the hydro-aeroplane. When the latter leaves the water and is altogether air-borne, it is an aeroplane pure and simple, and has passed beyond the sphere of the naval architect into that of the aeronautical designer, and, therefore, beyond the scope of the present paper.

Before discussing the various classes of machine which come under one or other of the headings of Skimmer or Hydro-Aeroplane, it would be well, perhaps, to define the terms used in connection with the stability which it is proposed to investigate.

The usual term in aeronautics for movements in the plane of symmetry of the machine is "longitudinal or symmetrical dynamical stability." To the naval architect, however, the term "dynamical stability" conveys quite another meaning—viz., the work done in inclining a vessel to a given angle. It is proposed, therefore, for the purpose of this paper, to substitute the expression "longitudinal or symmetrical kinetical stability." This stability may be defined as follows:—Suppose a machine to be in steady motion in the plane of symmetry, which contains the centre of gravity and the line of flight, and the external forces acting on the machine to be in equilibrium. If now the machine be tilted either up or down in this plane, the forces will no longer be in equilibrium, but will constitute a longitudinal righting or upsetting couple, as the case may be. If a righting couple acts, the body will return to its original position of equilibrium, and will probably oscillate about



that position. If it returns to the original position without oscillation, or if any oscillations set up gradually die out, then it is kinetically stable. If, on the other hand, the oscillations get larger with time it is kinetically unstable.

A machine may have automatic stability—that is, stability attained by the use of moving parts such as gyrostats, pendulums, &c., or may be stable in its design. This inherent stability is the only kind dealt with here, and any displacement from a position of equilibrium, due to an alteration of the rear elevating plane, or an increase in the propeller thrust, of course produces unbalance of the forces; but this is quickly followed by dynamical equilibrium under the new régime. When an aeroplane is struck by gusts of wind, its behaviour depends to a great extent on its inherent stability. If it be inherently stable, then oscillations set up by the gust will be quickly damped out, and the aeroplane will revert to its state of steady motion. If, however, the gusts be periodic and synchronise with the free oscillations of the aeroplane, the results may be disastrous. If the machine be kinetically stable—that is to say, if its free oscillations have a modulus of decay—then the theory of forced oscillations shows that the forced oscillations will not exceed a certain limit.

Lateral or asymmetrical stability is not dealt with here, as this is mainly of importance when the machine is altogether in the air, and beyond the range of this paper.

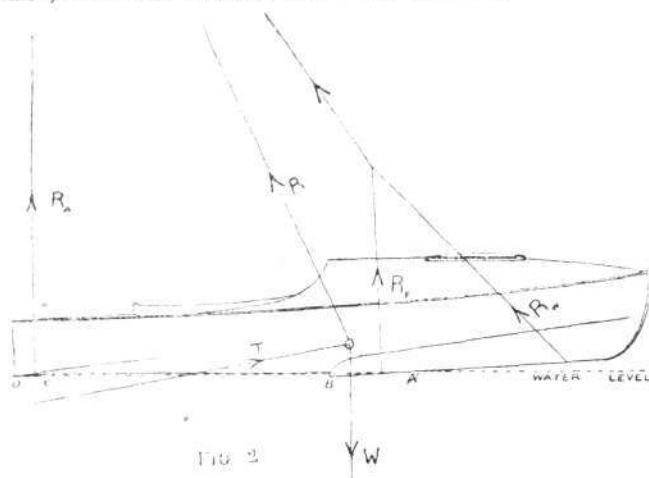
A machine may be a double-lifting system, one in which there are two lifting surfaces or sets of superposed surfaces, one forward and the other one aft. Or it may be a single-lifting system, in which case the auxiliary surfaces, such as tail planes, must be neutral—that is, parallel to the direction in which the wind blows on them.

Three types are dealt with in which there is a gradual evolution from the skimmer on the surface of the water, via the machine designed to fly with its tail on that medium, to the machine which rises from and alights on the water but is otherwise an aeroplane.

* Paper read at the Spring Meetings of the Fifty-fourth Session of the Institution of Naval Architects, March 13th, 1913.

We will now consider each type in detail, together with some of the problems to which they give rise.

First comes the skimmer, a type of craft whose displacement at high speeds is very much less than the weight of the vessel, and which, as its name indicates, skims over the surface of the water

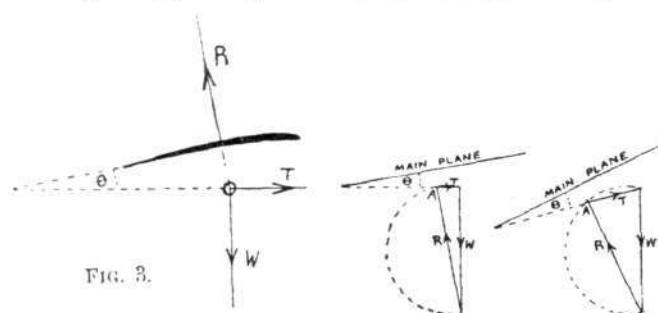


rather than ploughs its way through it. "Miranda IV," designed by Sir John I. Thornycroft with phenomenal success, is taken as an example of this type of boat.

"Miranda IV."

This vessel (Fig. 1) is 26 ft. long by 6 ft. broad, and is 2 ft. 6 in. in depth. The fore end is moulded to the usual form of a high-speed motor boat. As amidships is approached her lines deviate from the ordinary, and are modified to enable the vessel to skim at high speeds, but this modification is as small as possible in order that she may be driven with ease at speeds below the skimming phase. When running at skimming speeds only that portion from A to B, and again aft of C, are water-borne, and as this is the condition which affects the present paper, only those parts of the hull need be considered. As will be seen from the drawings, the portion of the bottom from A to B forms a dihedral angle, rounded at the apex, and increasing in magnitude as we go aft. Aft of C the bottom may be taken as being flat.

When running within her skimming phase (Fig. 2) the forces acting on the boat are the weight W , the propeller thrust T , the reaction (R_F) of the water on the "forward plane" A B, and (R_A) that on the "after plane" C D. These reactions act at the centre of pressures of their respective planes, and knowing W , T , R_F , and R_A in magnitude, position, and direction, it is easy to find the same



three things with respect to the remaining force acting on the boat, that being the reaction (R_W) of the wind on the out-of-water portion. The reactions R_W , R_F , and R_A combine to give the common resultant R , which must pass through O, the meeting point of the remaining forces W and T .

From what follows it will be seen that an increase in the propeller thrust will cause the boat to rise forward. The three forces R , T , and W are in equilibrium (Fig. 3), and T acts at a constant angle θ to the boat, the angle between R and T being therefore constant and equal to $90^\circ - \theta$. The point A, then, lies on the circumference of the segment of a circle containing the angle $90^\circ - \theta$. It will be seen from this that if the thrust of the propeller be increased as shown, the boat will be tilted up forward. Strictly speaking, the above can only hold if T , W , and R all pass through

the same point, fixed relatively to the vessel, whatever be the inclination to the horizontal. This cannot hold for W and T unless the latter be central—that is, pass through O. For a flat plane R would generally move forward with a decrease in the angle of attack, and aft when the angle of attack is increased. If the rising of the fore end of the vessel be considerable, the increased angle of attack both of the wind and the water causes the centres of pressure of the planes to travel aft, with the result that R no longer passes through O, but constitutes a clockwise couple tending to bring down the fore end of the vessel until R again passes through O and the cycle recommences. This is one of the causes of pounding, which, besides being severe on the boat, is uncomfortable for those on board.

The dipping will be excessive if the period due to skipping synchronises with the natural pitching period of the boat, as then forced oscillations will be set up.

The after plane, with its reaction R_A , could be done away with, but then the resultant of the wind and water pressure would be much more readily affected in direction by an inclination of the vessel, and so give rise to unbalance in the forces. The arrangement shown is much more stable, and the reaction R_A has the advantage of a small "lift," vertical component, while its horizon-

tal component, or "drift," which must be overcome by the horizontal component of the propeller thrust, is insignificant. This after plane can be quite small, as it has such a long arm, and its advantages well outweigh its disadvantage. The lift of R_W , R_F , and R_A , together with the vertical component of T, equal the weight of the vessel, while the horizontal component of T must equal the drift of R_W , R_F , and R_A .

The more the fore end emerges from the water, the shorter will become the planes which bear on the water and which give the greatest drift to be overcome by the propeller thrust, so that we may look for increased speed unless the after end should at the same time sink so far as to increase appreciably the drift at that part. This, however, does not seem probable with a propeller shaft set at the angle shown, as the increased vertical component of the propeller thrust should compensate for the loss in lift of the planes.

All that has been said applies even if T be no longer central but pass above or below O. In either of these cases, however, we must take into account the shift of the meeting point O relatively to the vessel. It will readily be seen what effect the moving of O forward or aft of an assumed position, or up or down, will have on the pounding.

(To be continued.)

THE HOLT THOMAS FIRE PLUG.

WITH a view to preventing the spread of an accidental fire that has originated round the carburettor on an aeroplane, Mr. Holt Thomas has invented a combination of fusible plug and stop-cock, the arrangement of which is illustrated in the accompanying sketch.

The fusible plug, A, is mounted on the top of the carburettor, and its composition is such as to give a sufficiently low melting point to ensure that it will fuse immediately the carburettor is actually enveloped in flames.

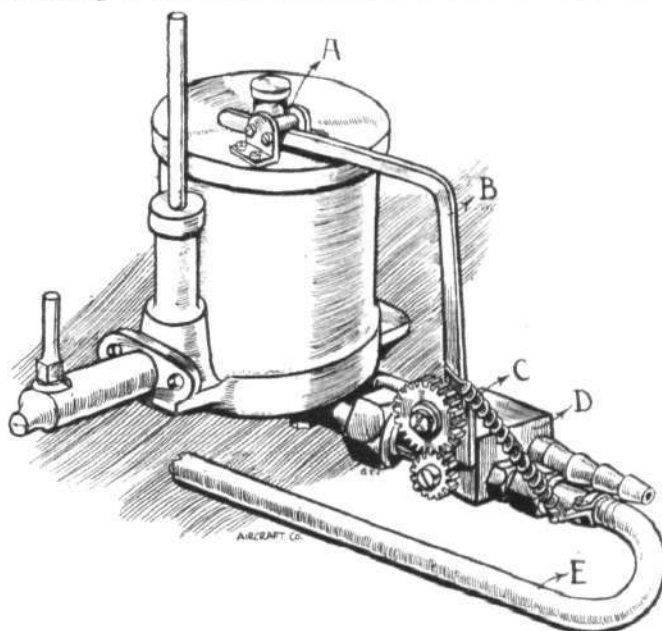
When the plug fuses, a lever, B, which the plug formerly held in a certain position, is released. The pull of a spring, C, causes the lever, which is attached to the cock, D, to fly over and to cut off the supply from the fuel tank to the carburettor.

At the same time that the supply port in the cock is closed a drain port is opened for the purpose of ejecting the contents of the carburettor through a drain-pipe, E, that terminates at some remote part of the machine comparatively removed from the probable danger zone.

The recent sad calamity at Shoreham is a reminder of how terrible the consequences of fire may be, and all who are engaged in flying would surely welcome any satisfactory device that might tend to minimise those consequences. It is apparent that in the fitting of the device just described, precaution should be taken to protect the spring as far as possible from the immediate heat of the flame, and it would also, we should think, be thoroughly worth while trying to devise an interconnection of some kind by which the shutting off of the supply cock near the carburettor simultaneously shut off the outlet from the fuel tank itself. This would doubtless present difficulties, but in view of the fact that the petrol pipe may be broken in the sort of accident from which there is most to fear from fire, it would seem thoroughly desirable to try and effect this further safeguard.

Whilst on the subject of fire caused by leaking petrol, it may not be inappropriate to reiterate the usual warning to cut off the supply at all costs. Some people appear to fear the explosion of the petrol tank to such an extent that they will even try and break it open to get rid of its contents. Nothing could be more hopelessly dangerous.

There is, of course, danger of the tank bursting if the fire cannot be subdued, but to burst open the tank is to be perfectly certain of consuming in the flames everything that remains. If the petrol



"Flight" Copyright.

pipe is broken, and the tap inaccessible, the best thing to do is to bend the pipe back on itself, so as to close the orifice by the kink.

Particulars of the Mr. Holt Thomas invention can be obtained from the Aircraft Co., 47, Victoria Street, S.W.

Illness of Mr. Joynson-Hicks, M.P.

WE tender our sympathy to Mr. Joynson-Hicks, M.P., who has shown so much interest in military aviation, who was taken ill on Monday afternoon at the House of Commons. He is suffering from phlebitis, and although all present engagements have had to be cancelled, Mr. Joynson-Hicks hopes to be well enough to make his statement on military aviation when the Army Estimates come up for discussion again in the House.

An Interesting Announcement.

ANNOUNCEMENT is made of the forthcoming marriage, on the 29th inst., of Lieut.-Col. C. O. Smeaton, R.A., who, it will be remembered, qualified for a pilot's certificate at the Bristol School in August, 1911, and still flies Bristols at Larkhill and elsewhere whenever he can get an opportunity. His fiancée, Miss Evelyn M. Burnside, who is a daughter of the Rev. F. R. Burnside, Rector of Great Stambidge, where the wedding is to take place, is as keen about aviation as is Col. Smeaton.

Memorial to Army Aviators.

ON Saturday last General Sir H. L. Smith-Dorrien unveiled a memorial to Capt. Loraine and Staff-Sergeant Wilson, which has been erected at the junction of the Salisbury-Devizes and Amesbury-Shrewton roads. It takes the form of a Morwenstow cross, in unpolished grey Cornish granite, and it bears the following inscription:—"To the memory of Captain Loraine and Staff-Sergeant Wilson, who, whilst flying on duty, met with a fatal accident near this spot on July 5th, 1912. Erected by their comrades." The ceremony was attended by relatives of the deceased officers and representatives of the various branches of the army.

Messrs. Lang and Garnett at Weybridge.

MESSRS. LANG AND GARNETT have removed their offices to their Works—Riverside Works, Weybridge, from where they will transact all their business in future. In order to cope with their increasing business of which a speciality is the turning out of propellers entirely made in England. Messrs. Lang and Garnett are making addition to their plant of modern machinery.

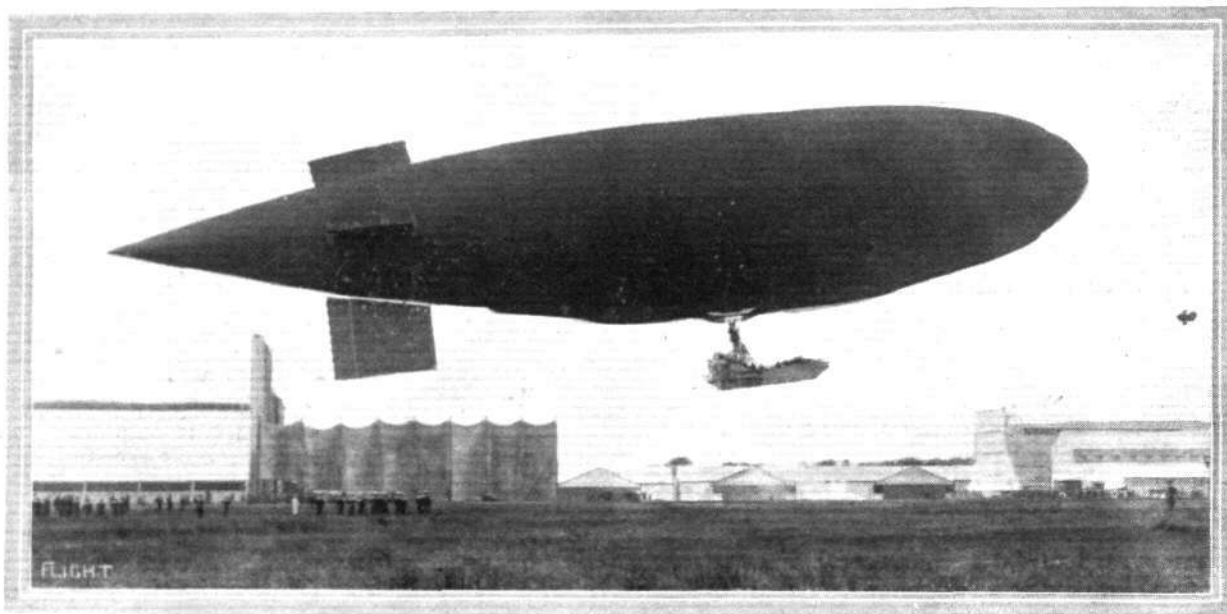
AIRSHIP AND BALLOON NEWS.

"Adjutant Reau" Cruising for 3 Hours.

THE Astra dirigible "Adjutant Reau" made a three-hour trip along the Meuse Valley to Vilosnes and back to Verdun on the 4th inst., and afterwards made a reconnaissance over the fortified places to the north of Verdun.

19-hour Trip by "LZ 19."

THE German army Zeppelin "LZ 19," which left Frankfort-on-Main at 11 a.m. on the 3rd inst., arrived at Koenigsburg at 6 a.m. the next morning, having covered a distance of 950 kiloms. in 19 hours. It had been intended to make a stop at Potsdam, but the



The new Parseval airship, "The Lady of the Air," just before its start from Farnborough for a maiden trip to London on Monday last week.

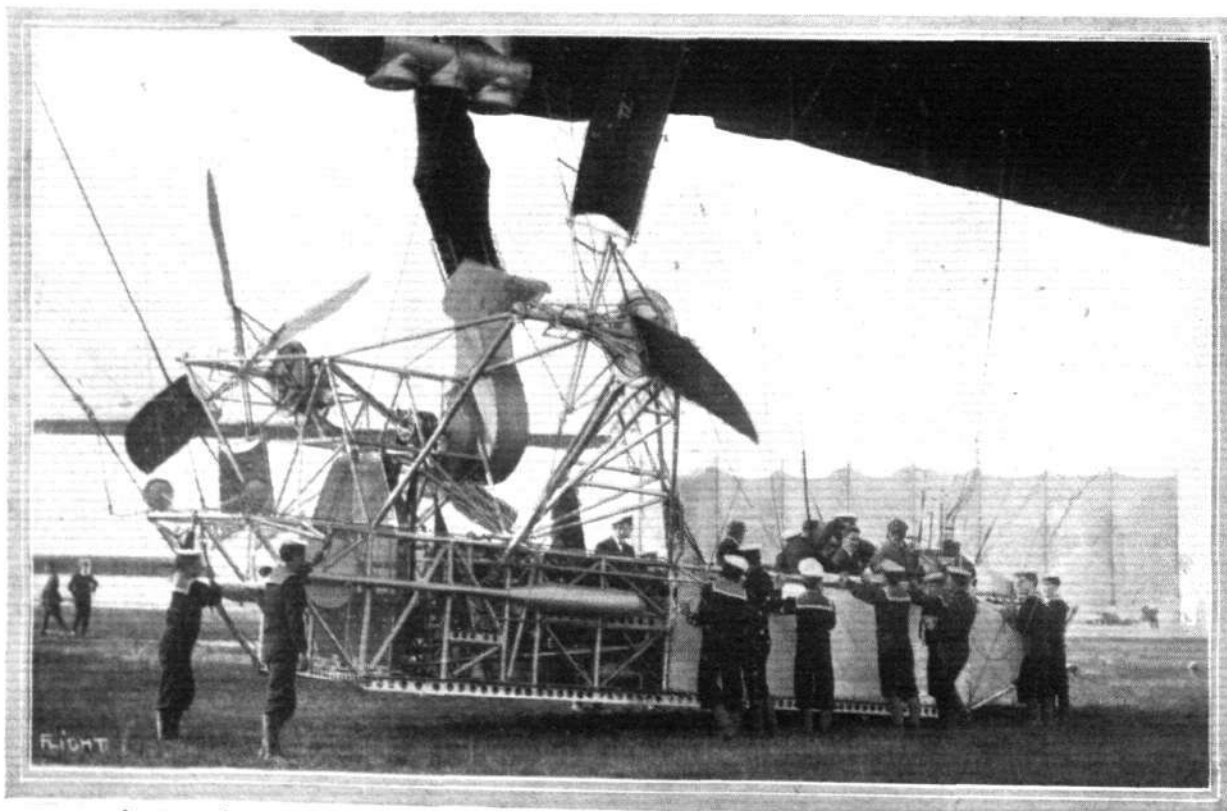
New Airship Stations in France.

THE French military authorities are now arranging for two new airship stations in central France. One is to be at Albi, where the Clement Bayard airship "Adjutant Vincenot," at present at Toul, will be stationed. The other will be at Pau, and the dirigible selected for this point is the "Fleurus."

state of the weather rendered this inadvisable, and so the journey was a non-stop one. The airship had sixteen persons on board during the voyage.

"Schutte-Lanz" Out Again.

ON Saturday last the great "Schutte-Lanz" airship made her first appearance since the accident in which the vessel was seriously



A view of the "car," engines, &c., of the new Parseval airship, "The Lady of the Air."

damaged last autumn. The airship cruised for some time in the neighbourhood of Berlin, and appeared to answer to her commander's requirements in her manoeuvres.

Count Zeppelin's Birthday Trip.

By way of celebrating his 75th birthday on Tuesday last, Count Zeppelin took part in the trial trip of the 20th craft turned out from the Zeppelin works at Friedrichshafen. The vessel is the new military cruiser Z5. Among the congratulatory messages received by Count Zeppelin were those from the Kaiser, the Imperial Chancellor, and many other prominent personages.

A New German Airship.

TRIALS were carried out on Tuesday with the latest Veeh airship of the semi-rigid type, which has been built at Dusseldorf.

FOREIGN AVIATION NEWS.

New Records Accepted.

AT a meeting of the Commission Sportive Aeronautique on the 5th inst., official recognition was accorded to the speed records made by Prevost on his Deperdussin at Rheims on June 8th. The new figures are:—

Speed.				Time.			
10 kiloms. ...	3 mins.	20 $\frac{1}{2}$ secs.		40 kiloms. ...	13 mins.	23 secs.	
20 " ...	6 " "	4 $\frac{1}{2}$ " "		50 " ...	16 " "	43 $\frac{3}{4}$ " "	
30 " ...	10 " "	2 " "		100 " ...	33 " "	30 $\frac{1}{2}$ " "	
Highest Speed.				Time.			
179.820 kiloms. an hour.				$\frac{1}{2}$ hour ...			
				... 86.507 kiloms.			

A Pommery Cup Attempt Spoilt.

AN attempt for the Pommery Cup by Guillaux on the 3rd inst. was spoilt mainly through the non-arrival at Issy of the official observer. Everything else was ready for the start at 4 a.m., but as the proper official had not turned up search had to be made for another, and it was nearly five o'clock before Guillaux got away on his Clement Bayard monoplane. He intended to fly to Casablanca, a distance of 1,900 kiloms., but on account of the delay at the start and the bad weather experienced on the way he decided to stop at Blois.

A New Pommery Competition.

IN view of the great part played by the Pommery Cup competitions in the development of long-distance cross-country flying, it is interesting to hear that the competition will be carried on for another three years. The present cup was offered three years ago, and the last of the half-yearly competitions will close on October 31st next. Arrangements have been made, however, for the offer of 60,000 francs to continue the prizes for another three years and the conditions will remain unaltered, *i.e.*, the prizes will be awarded for

The airship is 80 metres long and has a cubic capacity of 8,000 cubic metres. During its trial on Tuesday it carried sufficient supplies for a ten-hour cruise, and there were ten persons on board.

The Gordon-Bennett Balloon Race.

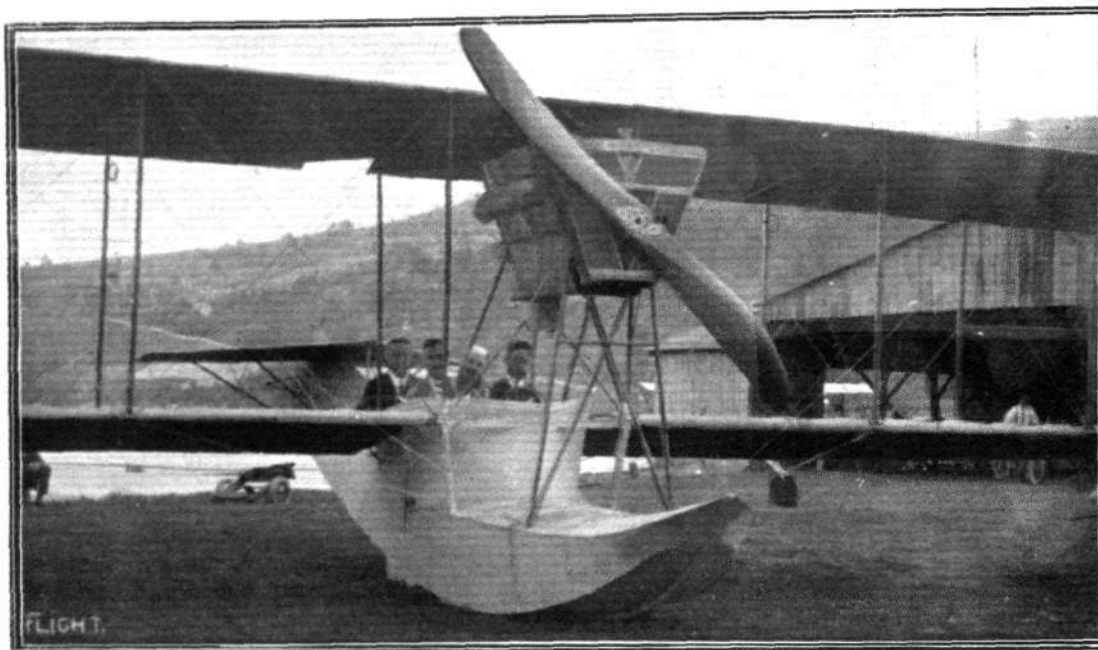
THE American eliminating trials, to select a team of three balloons to represent America in the Gordon-Bennett Balloon Race, were held from Kansas City last week-end. The selected team is "Goodyear" (Messrs. Upson and Preston), which landed at West Branch, Mich., after covering 640 miles; the "Kansas City I" (Messrs. Honeywell and Gifford), which reached Rockwood, 636 miles; and "Kansas City II" (Mr. J. Watts), which came down at Goodrich, 634 miles. The other competitor, the "Million Population" (Mr. J. Berry), at Manchester, 590 miles.



Brindejone des Moulinais' great Paris-St. Petersburg flight. —The aviator at St. Petersburg. From right to left, Mr. J. H. Kennedy (British), well known to our early readers in connection with Russian aviation; M. Brindejone des Moulinais (French), M. Serge W. Grebenschikoff (Russian aviator), and Mr. S. Lawrence Hopkins (American).



THE PENALTIES OF FAME.—The finish of M. Brindejone des Moulinais' great Paris-St. Petersburg flight. M. Brindejone being carried shoulder high on his arrival back at Villacoublay.



Another view of the four-seater Curtiss flying boat, showing the arrangement of the engine, &c., and the disposition of the seating accommodation.

the longest flight in a straight line except that pilots may take two days, instead of being limited to 24 hours as at present.

Honour for M. Soreau.

THE Pierson Perrin prize of 1,000 francs has been awarded by the French Academy of Science to M. Soreau, the chairman of the aviation committee of the Aero Club of France, for his work in connection with aeronautics.

M. Giraud Touring.

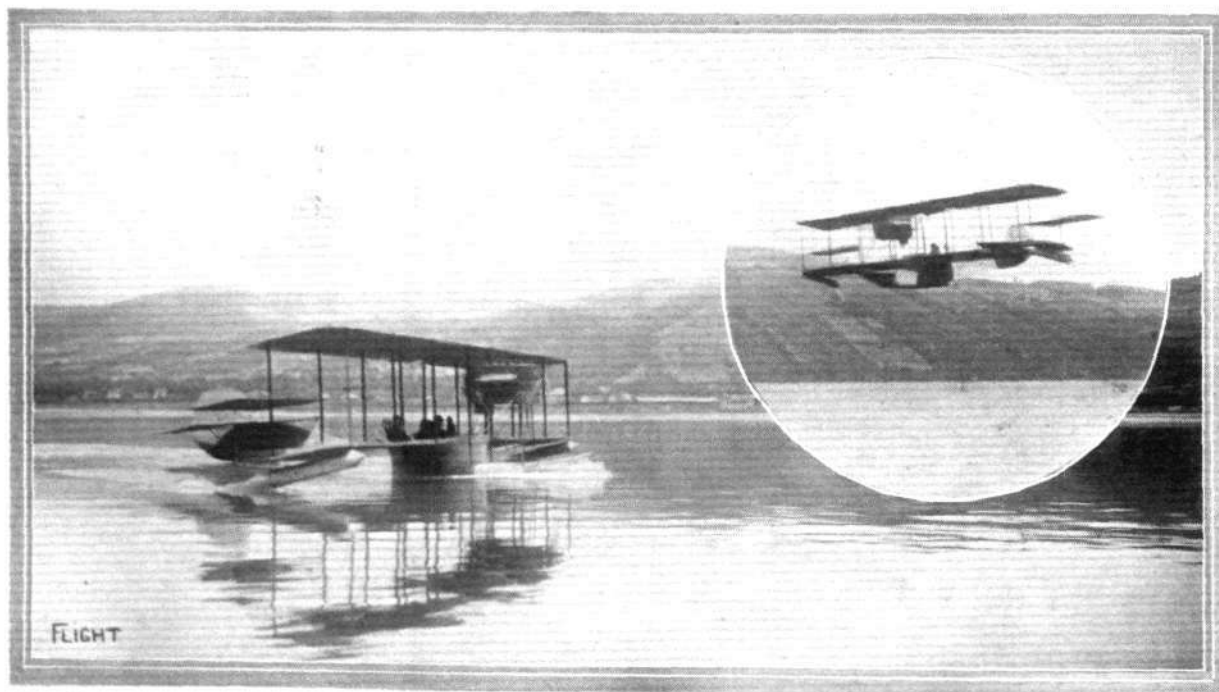
ON his tandem-seated Blériot, with a passenger, M. Etienne Giraud, who flew from Hardelot to Calais on the 29th ult., continued his trip along the coast the next day and arrived at Deauville. On the 2nd inst. he made an excursion along the coast to Courseulles-sur-mer.

Fine Work on Farman Machines.

SAPPER RESERVAT, stationed at Chalons, made one test for a superior *brevet*, on the 1st inst., by flying on his H. Farman machine from Bony to Etampes. On the 4th inst. Dufort and Touvet, two Nationale Comité pupils, went on Farmans from Etampes to Mailly Camp, a distance of 100 kiloms., and Touvet made the return journey the same day. Adjudant Boissieres and Sergeant Mouilleres on an M. Farman, also, on the 4th inst., completed one round of the Buc Chartres-Orleans course. Last Saturday Touvet made a round of the Etampes-Vendome-Chateaudun course, covering the 225 kiloms. in 2½ hours.

A Joy Ride for Mme. de Laroche.

WITH Madame de Laroche as a passenger, De Ram, on the 4th inst., piloted a Henry Farman military machine from Buc to Etampes.



THE CURTISS FOUR-SEATER FLYING BOAT.—What is claimed to be the largest and heaviest hydro-aeroplane ever made has been recently tested on Lake Keuka, near Hammondsport, N.Y. The machine has been built for Mr. Harold F. McCormack by Mr. Glenn H. Curtiss, and follows the general design of his two-seater machine. The wings are of 40 ft. spread, and the machine is equipped with a 90-100 h.p. Curtiss engine. At the hands of Mr. Curtiss it showed a speed of 50 miles an hour along the water and over 60 m.p.h. in the air.

A Borel Superior Pilot.

LIEUT. LE REVEREND, of the Borel School at Buc, made one test for his superior *brevet* on Saturday, flying from Buc to Maily Camp. Daucourt, on a single-seater Borel, made a fine flight from Buc over St. Cyr, Rambouillet and Juvisy.

Good Work at Nieuport School.

AT Villacoublay on Sunday Capt. Guillabert on his Nieuport, with 60 h.p. Clerget motor, flew an hour, and a similar flight was made by Sapper Rolane, while Brulard was up for an hour and a half. Chapier made a trip from Villacoublay to Fontainebleau, while Sergeant de St. Andre, with a passenger, went through a drenching rain to Nevers.

A Fatality in France.

A BIPLANE piloted by Sapper Bouchardier, and carrying Capt. Rey as passenger, fell from a height of over 1,000 metres on the 2nd inst., near the village of Bethon. Capt. Rey was killed instantly, and the pilot sustained very serious injuries.

Flying at Calais.

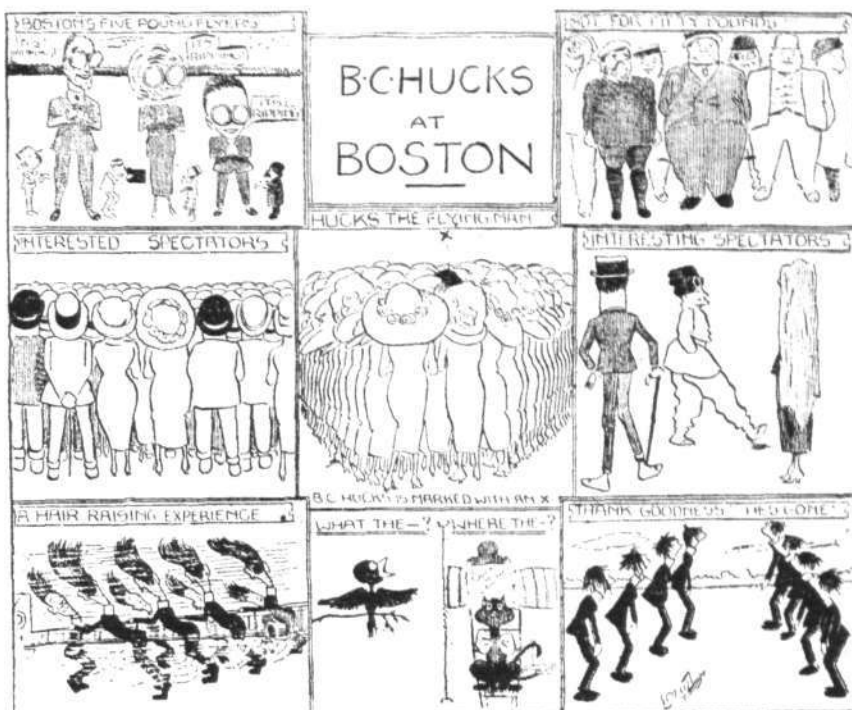
ON the occasion of the opening of the new aerodrome at Calais on Sunday, exhibition flights were made by Brindejone des Moulinais (Morane), Guillaux (Clement Bayard), Robinet (Bathiat), and Bathiat (Bathiat). All these pilots arrived during the morning by way of the air, Bathiat and Robinet coming from Mourmelon, with one stop at Crottoy, Guillaux from Issy and Brindejone from Hardelet, to which point he had flown from Villacoublay on the previous evening. On Monday morning Brindejone flew back to Paris, with a stop at Hardelet for lunch.

Brindejone des Moulinais' Return Home.

IT was a most enthusiastic reception which was accorded Brindejone des Moulinais when he landed at Villacoublay on Wednesday, last week, on the conclusion of his 4,800 kilom. tour round Europe. As mentioned last week, the last stage, from The Hague, was made with one stop at Compiègne, from whence the aviator was escorted to Paris by Letort, Biot, Gilbert, and Lieut. Ronin, all flying Morane monoplanes. The eight stages of the great flight were: June 10th, Paris to Warsaw, 1,400 kil.; 15th, Dvinsk, 550 kil.; 17th, St. Petersburg, 450 kil.; 23rd, Revel, 350 kil.; 25th, Stockholm, 400 kil.; 29th, Copenhagen, 610 kil.; July 1st, The Hague, 700 kil.; and 2nd, Paris, 400 kil. The monoplane was a Morane-Saulnier, fitted with 80 h.p. Gnome motor, and Chauvière Integral propeller.

Trying to Surmount the Jung Frau.

ALTHOUGH unsuccessful in his first attempt to fly over the Jung Frau to Milan, Bider intends to have another try shortly. He left Berne at 4 a.m., on the 2nd inst., and flew straight for the mountain, but after passing above the Eiger glacier he found his motor was not giving its full power, and the machine would not climb beyond 4,000 metres. Bider therefore returned to Berne, where he landed at 7 a.m. The Jung Frau stands 4,150 metres high. On examination of the barograph carried by Bider, it was found that the greatest altitude registered was 3,490 metres, and this will probably be accepted as the Swiss height record.



Some impressions by the artist of the *Lincolnshire Standard*.

The Belgian Aerial Postman.

ON his Deperdussin monocoque, Crembez, who it will be remembered has an arrangement to carry mails in connection with the Ghent Exhibition, on Monday went from Ghent to Berchem and back, the trip taking 50 minutes.

Double Fatality in Bavaria.

WHILE flying a biplane in connection with a fête at Wurzburg, the German pilot Lendner fell, and both he and his passenger, a Frenchman, sustained injuries to which they succumbed on the way to the hospital.

Another Collision at Johannisthal.

COLLISIONS between aeroplanes have occurred with unpleasant frequency of late, and another such accident occurred at Johannisthal on the 4th inst. The machines were biplanes, and at the time they were flying about 20 metres above the ground. One of the pilots, Holscher, was killed, while the other, Capt. Friedel, was seriously injured.

An American Military Pilot Killed.

LIEUT. L. H. CALL, of the U.S.A. Aviation Corps, who, after a course of instruction at the military flying school at Texas City, was detailed for duty with the troops at Texas, was fatally injured in a fall while his machine was leaving the aerodrome there on Tuesday last. He had made several long flights subsequent to obtaining his certificate at the beginning of last month, including one of 1 hr. 13 mins.

AERONAUTICAL SOCIETY'S**NEW ASSOCIATE FELLOWS.**

IN the notes of the Aeronautical Society last week there is a list of the latest elections to the associate fellowship grade. Among those who have been elected, whose names may not perhaps be generally familiar to the readers of *FLIGHT*, are the following:—

R. O. Boswall, Instructor in Aeronautics at Northampton Polytechnic, B.Sc. University of London. First class honours in engineering. Served apprenticeship with Vickers, Sons and Maxim.

G. H. Challenger, chief designer and engineer in the aviation department of Messrs. Vickers, Ltd. Formerly chief engineer at the British and Colonial Aeroplane Co., and sometime employed as an engineer by the Bristol Tramways and Carriage Co.

L. Coatalen, chief engineer of the Sunbeam Motor Co., and designer of the new Sunbeam aero engine.

E. H. Clift, consulting engineer and specialist in aeronautical instruments, particularly compasses and maps.

H. Coanda, technical director of the British and Colonial Aeroplane Co. *Ancien Elève de l'Ecole Supérieure d'Aéronautique.*

E. C. Gordon England, sometime designer to the British and Colonial Aeroplane Co. Designer of the Radley-England water-plane.

E. H. Hankin, M.A., D.Sc., chemical examiner and bacteriologist to the government in India. Has made a great study of the flight of birds, on which he has published several treatises, notably that which appeared in *FLIGHT* during 1911.

J. L. Hodgson, B.Sc., associate member of the Institute of Civil Engineers. Formerly a pupil at Yarrow's, and now associated with Messrs. Handley Page, Ltd.

C. H. Ley, member of the Meteorological Society, and author of several reports and papers on meteorology.

J. H. Neal, A.M.I.M.E., Associate of the Royal College of Science. Research scholar in aeronautics at the N.P.L. Joint author of various memoranda in the technical reports. Technical assistant to Handley Page, Ltd.

J. D. North, designer and engineer to the Grahame-White Co. Formerly with the Aeronautical Syndicate, and sometime with Messrs. Workman and Clark, shipbuilders, of Belfast.

R. K. Pierson, B.Sc. (Lond.), Engineering. Apprenticed to Vickers, Ltd., and now Technologist in the Aviation Department.

T. E. Stanton, D.Sc., M.I.C.E., superintendent of the aeronautics division of the N.P.L., and author of several classic researches in air resistance.

Models

Edited by V. E. JOHNSON, M.A.

Aero Models Association (Northern Branch).

WE have received from the above a copy of their prospectus of aviation meetings, &c., for the current year, the same showing weekly flying meetings from June 7th to November 29th; from November 1st onwards weekly indoor meetings will be held and a series of lantern lectures is being arranged. Personally we attach considerable importance to this last-mentioned item, and we certainly trust that much more generally will be done in this respect than was the case last season. The K. and M.A.A. wants to wake up in this respect. Every lecture should be of sufficient brevity to permit of ample discussion afterwards. The secretary of the Aero Models Association also encloses some tabulated results (given below) of a recent handicap competition, in which the duration of the run of the motor was used as a basis for handicapping. We publish these results with pleasure, because if the sport of model aeroplaning is to be a popular one (and if it is to be a success it must be popular), something in the nature of handicapping must be adopted. It is so in every other form of sport, and the above is no exception.

"The method" [of handicapping] says Mr. Hindsley, "seems simple and effective, the machine which makes best use of its power (irrespective of type) winning."

"The results are not good [it is not quite clear to what this term refers], but serve to show the working of the system. The winning machine made a glide of 10 secs. duration. The relative positions of the machines of similar type are not affected, but the tractor gains a place."

Handicap Duration Competition held at Bishop's Avenue,
June 14th, 1913.

Name of Entrant.	Type.	No. Max. of winds.	Run of motor. secs.	Handicap.	Best dura- tion. secs.	Handicap duration. secs.	Place.
G. O. Partridge	1-1-0-P ₂	?	55	scratch	25	25	5th
H. E. Fletcher	0-1-1-P ₂	850	53	+ 2	30	32	4th
F. G. Hindsley	P-0-1-1	750	26	+ 29	20	49	3rd
R. L. Rogers	1-1-0-P ₂	615	45	+ 10	44	54	2nd
H. D. Murray	1-1-0-P ₂	1050	38	+ 17	48	65	1st

The Rt. Hon. the Earl of Ronaldshay is the President of the Club.

Models as Investigators of Accidents.

The following remarks are in the main the outcome of a conversation which I had a few days ago with Mr. G. P. Bragg-Smith, and the specific case quoted was suggested by him as a suitable one for investigation. As I have already pointed out it is obvious that Mr. Brasnett's suggestion is practically speaking of no use in any case where the accident is determined as being one in which the personal control of the pilot has been at fault; but let us take the case where an accident has occurred owing, say, to wing fracture. Opinions differ, we will suppose, as to what this fracture was due, some maintaining that it was caused by insufficient wire staying from the top—others that it was due solely to increased head resistance. A number of models (replicas in the essential parts of

the full-sized machine) are built, weak so far as the top staying of the wings is concerned, others with wings well stayed both above and below—but weak with respect to ability to withstand head resistance pure and simple. These models are flown in weather as far as practically possible similar to the weather in which the accident occurred, and the manner in which the wing collapses in the air carefully noted and compared with that observed in the case of the full-sized machine.

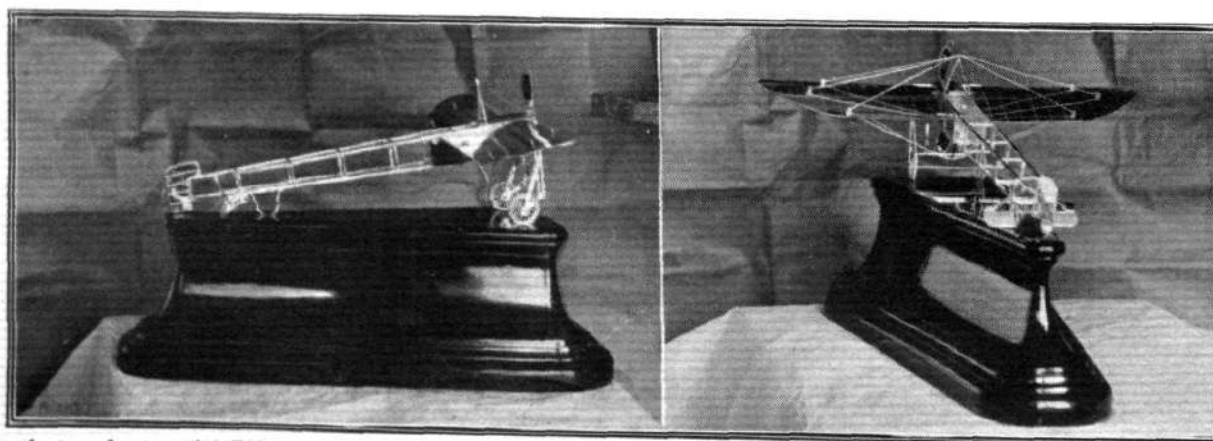
The investigation presents many very great difficulties, no doubt, but certainly seems worth a trial, as knowledge would undoubtedly be gained from it. A somewhat more scientific method of procedure, or, at any rate, one which could be more accurately observed, would be to suspend the model in a suitable manner in a wind tunnel with a glass window and take cinematograph pictures of the experiment. Supplementary fans placed in suitable position and at certain angles could be employed to simulate side gusts, whirls, *remous*, &c., &c., and it certainly seems that much really valuable practical knowledge could be gained from a series of such experiments, in a number of which the model was purposely made weak in some particular part or parts.

Steady Stability and Rolling Stability.

A correspondent, under the *nom de plume* of "Rolling Stability," forwards us the following remarks: "I saw in June 23rd issue you have invited readers to send along their opinions *re* the above. I have no doubt in my own mind that rolling stability is far the better of the two. Surely rolling stability is but another name for inherent stability. It is the act of rolling that shows a machine's safety. The following are my reasons for thinking that rolling stability is the better of the two. First, there is the strain caused by sudden gusts. The rolling aeroplane yields to them, but the steadied machine, owing to resistance, feels their full force. I feel sure this would shorten a machine's life by one half, and, as the machines are now built, the pilot would be risking his life, from fracture through too much stability. There is also the appearance of the machine to be considered. Trivial as this may seem, it has its place. Who would admire a vessel that rode on the water stiff and straight? Besides safety, there is a majesty and grace in its very roll that gives it life and beauty. The same thing surely holds with respect to aeroplanes, also, a great deal of the joy of flying would be gone. I grant that the steadied aeroplane scores over the steadied vessel, since it has two more movements, the up and down, but it seems to me the gain is very small. If the wind gust invariably lifted or forced down the centre of gravity it would be very different, but, unfortunately, it strikes at the weakest part of greatest leverage. There is, however, one real gain in steady stability, and that is at the time of the machine's landing. Were invariable landing on level ground a possibility no especial difficulty would arise, but this is by no means the case; but a good pilot can generally manage to control his machine at this stage. Even at the worst it very seldom means more than a broken wing tip or a buckled wheel."

Electric Motors and Models.

Referring to the writer's remarks on page 685 of FLIGHT under the heading "Scientific Models," Mr. R. V. Tivy writes: "The



An electro-plate model Blériot, by Mr. W. H. Bagshaw, of the Sheffield Model Aero Club—a very fine piece of workmanship, and suitable for a model trophy.

flight of 700 ft. made by a scale model driven by an electric motor and carrying a battery on board, was made on level ground. The battery was of the type which runs out in about 30 secs., and I understand that the model had no reserve of power, and was only able to keep a few feet off the ground. I should not recommend anyone to experiment with models carrying a battery on board. The flexible wire arrangement is the most feasible, and has been successfully tried."

On receiving the above we wrote to Mr. Tivy for further particulars, &c., knowing quite well from some considerable personal experience with very light electric motors and short circuited batteries, &c., the enormous difficulties to be overcome.

In his reply Mr. Tivy states that his information was derived from Mr. C. W. Tinson, of the British and Colonial Aeroplane Co., to whom he was writing to ask him to communicate with us. We have since heard from Mr. Tinson, who writes as follows: "I have received a request from Mr. R. V. Tivy to put you in communication with my friend, Mr. Suffield, who built a successfully electrically propelled model aeroplane in 1910. Unfortunately I have lost sight of Mr. Suffield altogether, but from what he told me I should unhesitatingly say that the idea is utterly impracticable as far as the average model maker is concerned. My friend possessed unusual skill, patience and experience, and then only just achieved success. As a matter of fact I worked out, from the h.p. he said the motor gave, the area and weight, &c., of the machine and the probability of flight, and found the margin was such that had the machine as a whole not realised an extraordinary efficiency, flight would be impossible. This will serve to show how futile would be the attempts of a man without extreme skill. He made the motor and batteries himself, both of which were constructed on unique lines in order to give a greater power to weight ratio. The motor overworked the batteries to such an extent that the plates buckled each time.

"The model, which was more or less a scale one of the Prier single-seater P. 38, weighed 4 ozs. complete, and the motor and batteries 10 ozs.—i.e., the total weight was 14 ozs. You can thus easily believe that the whole thing readily crumpled up on collision with anything. The machine actually made, I believe, three flights; each time rising off the ground and doing wide circuits by reason of the torque of the motor. Mr. Suffield also made a machine previous to this; one which was driven by pocket lamp cells, and this flew out of sight and was never found."

We gather from Mr. Tinson's letter that he never actually witnessed any of these flights or possibly never even saw the models. In 1910 the writer tried some experiments with a very light motor and some special cells (lighter even than the pocket lamp cells referred to by our correspondent—these were short circuited to certainly not more than 10 seconds duration, and were quite useless after about three trials—they (three of them) were fitted on to the lightest model that the writer could build. Complete it weighed about 9 ozs., the model itself weighing about 2½ ozs.; it was hand launched, but nothing in the nature of what could be termed a flight was obtained. A commercial electric motor was noticed in FLIGHT, August 21st, 1909, and even in some of the earliest numbers of FLIGHT quite remarkable claims were put forward, but nothing resulted. Several special journeys were made by the writer to see some of these models fly, but they never succeeded in accomplishing such. The great difficulty that I found was the amperage (and consequent weight) necessary to get any efficient electrical result. I quite agree with Mr. Tinson as to the impracticability of the idea so far as the average modellist is concerned.

It is extremely unfortunate that Mr. Tinson has lost sight of Mr. Suffield (whose initials, unfortunately, we do not know); we can only hope that if Mr. Suffield or some other friend of his should chance to see this paragraph, it will result in our receiving a communication from Mr. Suffield himself. We are quite sure that not only ourselves but also a great number of our readers would be intensely interested in learning further details of these very remarkable experiments. We presume that so far Mr. Suffield's experiments have not been published.

The K. and M.A.A. Weight-Carrying Competition.

The results of this competition have very quickly verified in a practical manner the opinions of the writer so recently put forward in FLIGHT, the competition being won by Mr. J. E. Louch with a very fine and stable flight of 28 secs. Mr. Louch's machine weighed some 14 ozs., and had to carry some 4 ozs. dead weight, so that the total weight was 18 ozs. The span was 4 ft., length 4 ft., propeller (approx.) 14 ins. Bonn (Chauvière type), weight carried (approx.) 8 ozs. per sq. ft. The motor was a geared one, consisting of two strands of rubber.

Mr. Louch could not possibly have given any better answer to those who have criticised him (and others) of building unscientific models; his machine was not only well built but well designed right through—nor was his the only one in the competition of which the

like could be said. Two or three of the machines were, I think, somewhat undersurfaced, several of them had very palpably been hurriedly knocked together and were not tuned up at all, which is much to be regretted. The appearance of the models generally (especially with their single propellers) was far more model like than the usual type, and one felt that one would much rather see a flight of 20 to 30 secs. with such machines than 60 to 80 with the usual smaller type of twin-propeller machine. Col. Fullerton has most generously offered another prize of £3 for a similar competition later on in the season, and we are quite certain that now the ice, so to speak, has been broken in this direction many more competitors will come forward at the next competition. We should also like to take the liberty of suggesting that the competitors do not leave the building of the model to within 24 hours of the contest, or even the last few days, as was done, we believe, in more than one case, in respect to the competition on Saturday last.

Messrs. Mann and Grimmer's Catalogue.

We have received from the above firm a copy of the latest edition of their catalogue. The term booklet would, it appears to us, be a more correct term to apply to it, since in addition to the usual lists, it contains reprinted extracts from a number of journals relative to the capabilities, &c., of the "Mann" monoplane, together with numerous testimonials from purchasers of the same. In addition to the above, there is a considerable amount of printed matter, due, we believe, to the pen of Mr. Grimmer; with regard, however, to that gentleman's remarks *re* Tractors, we do not find ourselves in agreement any more than one of our contemporaries has already done. The flying capabilities of the Mann monoplane are quite well known, and at present it holds the official record for distance for hand-launched models. The purchase of one of these models should certainly give the buyer both plenty of sport and plenty of exercise. In addition to building models of the flying type, the firm also make a speciality of scale models of full-sized machines.

Model Club for Handsworth.

Mr. W. V. Jones (222, Lozells Road, Handsworth, Birmingham), writes:—"Please notify that a model and glider club for young men has started in the above district, and that anyone wishing to join should call and see me at the above address. The club has not been formed in any sense in opposition to the Birmingham Aero Club, but simply for those living in Handsworth, who find it too far to go to the Birmingham Aero Club."

Model Club for Enfield.

Mr. H. Wickins (29, Uckfield Road, Enfield Wash, N.) will be glad to hear from anyone interested in the district with a view to forming a model club.

Replies in Brief.

G. H. KILSHAW.—Your sketches, etc., to hand, with thanks; the same shall be published in an early issue.

P. E. J. MINVALLA.—Your communication to hand, and we shall be pleased to make use of the same. We cannot trace plan E, unless you refer to the sheet containing the six gliders.



KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

British Model Records.

Hand-launched	Distance	R. Lucas	590 yards.
	Duration	A. F. Boulberg	80 secs.
Off ground	Distance	C. C. Dutton	296 yards.
	Duration	A. F. Boulberg	80 secs.
Hydro, off water	Distance	J. E. Louch	37 secs.
	Duration	F. Whitworth	173 yards.
Single-tractor screw, hand-launched	Distance	F. G. Hindsley	68 secs.
	Duration	J. E. Louch	45 secs.
Do., off ground	Duration	J. E. Louch	45 secs.

Competitions.—Open kite flying competitions, Littlehampton Common, August 4th, at 2 o'clock, for the Littlehampton cup. Entrance fee, 1s. 6d. Prizes: 1st, Littlehampton cup; 2nd, antimony rose bowl; 3rd, silver plated tankard. Additional rules governing this competition: 1. Competitors may use any kind of kite with minimum measurement of 20 ft., computed by Kite Rule 2. 2. Competitors must be at judges' flag at 1.45 p.m. sharp, any not then present may be disqualified. 3. Length of line or wire to be 300 yds. 4. The judges will take the angle of kites while in flight. Marks will be awarded for angle, stability, strength of construction, and collapsibility. 100 marks for each. Maximum marks, 400.

Junior Kite Competition (under 16 years). Free to members; non-members, entrance fee, 6d. For six prizes presented by Messrs. Brooke and Westhop, and special prize for winner, presented by Lieut. T. O'B. Hubbard, R.F.C. Rules: 1. Competitors may submit any kite, either home-made or manufactured. 2. A bugle will announce start and finish of the competition. 3. Competitors will raise kites when bugle sounds, each kite having a cord 300 yds. long. The cords can be of any size or kind. No kite to be in flight for one hour previous to time fixed for competition; non-observance of the rule will disqualify. 4. Competitors must be at the judges' flag at 3 o'clock sharp to measure off lines. Any competitor not present at that time will be disqualified. 5. The judges will take the angle of kites while in flight, and if any kite falls to the ground, or fouls another between bugle calls (as per rule 2) it will be disqualified. 6. Marks will be awarded for angle, stability, strength of construction, and collapsibility. The maximum of marks is 400—100 marks for each test.

Model Aeroplane Competition, at 3.30 p.m., for the Littlehampton model trophy.

duration) competition for models, rising off the ground (open to the world). Models must not weigh less than 4 ozs. Free to members; non-members, entrance fee, 2s. Prizes: 1st, The Littlehampton model trophy; 2nd, rose bowl; 3rd, silver plated tankard. Rules: 1. Competitors may submit models of any kind. 2. Models must not weigh less than 4 ozs. 3. Competitors must be at the judges' flag at 3.15 o'clock. Those not present at that time will be disqualified. 4. Models to be timed from time of starting to time of landing, or till they disappear from the judges' view. 5. Models must rise from ground under own power. 6. Each competitor is entitled to three trials if time permits. Entries should be sent in at once so that arrangements for special cheap tickets can be made.

Steering Contest to-day (Saturday), at Greenford. Entries for the Baden-Powell shield close to-day, 12th.

Burton-on-Trent Aviation Meeting.—August 1st, 2nd, 4th (Bank Holiday), and 5th, grand model aeroplane competition for the championship of the Midlands, will be held on Bank Holiday, August 4th, on Messrs. Bass and Co.'s Meadow, Burton-on-Trent. Prizes: 1st, challenge cup, together with £5 cash prize; 2nd, £3 cash; 3rd, £1 cash; 4th, 10s. cash; 5th, 10s. cash. These prizes will be modified in value unless a reasonable number of competitors enter, but due notice will be given before the meeting, of any alteration. The object of the competition is to find out which is the most useful type of model aeroplane, and will be held under the open competition rules of the Kite and Model Aeroplane Association, together with the following special rules: 1. All competitors are allowed free admission to the competition and the aviation ground. 2. All entries must be received not later than 10 a.m. on Wednesday, July 23rd. 3. Full particulars of model (as set out on entry form to be filled in), including type (monoplane, biplane, &c.) and method of propulsion. 4. Any type of model aeroplane which is startable and propeller-driven may be entered. 5. Any size and weight of model will be allowed, subject to the discretion of the judges. 6. Marks will be given for the following points: (a) Duration of flight, 50; (b) Stability, 20; (c) Design, strength and construction, 10—plus 20 extra marks for any model rising off ground under its own power. 7. Each competitor will be allowed to test his machine on the aerodrome, between the hours of 9 and 10.30 a.m., on the day of competition. 8. Competitors must be at the judges' flag not later than 10.45 a.m., sharp. 9. Each competitor will be allowed three flights if time permits. Special entry forms can be obtained from Mr. Waude Thompson, A.M.Inst.C.E., local sec. of aviation meeting, Town Hall, Burton-on-Trent, or from Mr. W. H. Akehurst, hon. sec. K. and M.A. Assoc. Special arrangements are to be made re railway tickets—details in next issue.

Results of Competitions.—On July 5th the Association held its first weight-carrying competition, on Wimbledon Common, for single-screw models rising from ground under their own power. There were 18 entries. The competition was rather disappointing, but showed that keen interest was taken by the competitors in making the special machines, and it showed them where they were at fault, therefore was instructive. The judges, Messrs. H. H. Groves, A. F. Houlberg, and the hon. sec., made the following awards: 1st, J. E. Louch, N.E. London Club, 28 secs., winner of £3 (presented by Col. Fullerton) and certificate of the Association; 2nd, G. P. Bragg-Smith, 16 secs., winner of the silver medal of the Association. The third prize was not awarded, as no one made the qualifying flight of 15 secs. The winner only had three flights and made his best flight in his third flight; his machine weighed 12 ozs., and he carried the two 2-oz. weights. Also a junior duration contest was held, and produced some good hand-launched flights. Judges: Messrs. G. Rowlands, H. Weston and the hon. sec. Results: 1st, F. Campbell, 63 secs., winner of the 45s. r.o.g. model (presented by Mr. A. F. Houlberg); 2nd, S. Cannell, 60½ secs., winner of 30s. r.o.g. model (presented by Murray, Son and Co.); 3rd, P. Thomson, 60½ secs., winner of silver medal (presented by Star Aeroplane Co.); 4th, L. F. Hutcheon, 59½ secs., boys' book of aeroplanes (presented by Lieut. T. O'Brien, Hubbard, Royal Flying Corps). The above results show Messrs. S. Cannell and P. Thomson tied for 2nd place, but in the fly-off Cannell did 65 secs. against Thomson's 57 secs. Col. J. Fullerton (vice-president) presented the prizes to the winners and announced that he would be pleased to give another prize of £3 for a similar competition, to be held in September, if it could be arranged.

27, Victory Road, Wimbledon.

W. H. AKEHURST, Hon. Sec.

AFFILIATED MODEL CLUBS DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Aero-Models Assoc. (N. Branch) (25, CHURCH CRESCENT, MUSWELL HILL, N.).

JULY 12TH, open r.o.g. duration competition 3 o'clock, cash prizes. Entry fee, 1s. for non-members. To reach ground turn through second gate right hand side Bishop's Avenue, near East Finchley (G.N.R.). July 19th, speed contest (members only).

Monthly Report.—A very representative lot of models have been flying during the past month—r.o.g. machines being much in evidence. On 14th, a handicap duration competition was held—result: 1st, H. D. Murray (1-1-0-P2); 2nd, R. L. Rogers (1-1-0-P2); 3rd, F. G. Hindsley (0-P-1-1); handicap times—64, 54, and 49 secs. Some very high flying was seen on this occasion, Mr. Murray's winning flight ending with a 10-sec. glide. Out of four flights by Mr. Rogers, three landed out of sight or in trees. A beautifully finished 0-0-1-P2 was flown by Mr. Fletcher, and Messrs. Coleman and Partridge also flew. On May 31st, an M.S.C. tractor, flown by Mr. Murray, was performing well in a gusty wind. Mr. Ridsley's 1912 tractor has been putting up short steady flights, which, in a machine embodying so much detail, shows remarkable efficiency. The same member's new built-up fuselage tractor has just made its appearance and promises well. Mr. Hindsley's light tractor, on one occasion was flying for over 30 secs., and climbing well, with the c.g. ½-inch outside and in front of the plane, which is odd. This machine of 24-inch span, will carry an 11-inch screw without being in the least affected by the torque. The secretary has been flying a 30 x 30 inch, 32 oz., r.o.g. tandem mono., which has made some good flights, but rolls badly. This r.o.g. twin gear tractor biplane—top plane Etrich plan, staggered back, rises in five feet and flies fast—should do a good distance when tuned up. Mr. C. C. Claplin (new member), has had out a light, crescent plan wing tractor, which cuts through the air very smoothly, travelling up to 200 yards. With a larger tractor he obtained, on the 18th, a flight of 40 secs., hand-launched, then model soaring in a heat current for some seconds before dipping to its glide. The same member has been flying a 52-oz. r.o.g. 0-1-1-P2—best duration, 65 secs., hand-launched. G. O. Partridge has been flying a 4-oz. tractor and his old 1-1-0-P2. He has a hydro. coming through shortly. E. Colman's (new member) machine, a well made 1-1-0-P2, has made some good flights. R. L. Rogers's big biplane has been out, also his 1911

1-1-0-P2, which is still good for the quarter mile. On the 28th, three supporters of the Gospel Oak and District M.Ae.C. visited the ground and showed some good flying in a bad wind.

Hendon and Districts Model Ae.C. (3, ARGYLE RD., W. HENDON)

Monthly Report.—The weather during the month has been almost ideal, and flying has taken place at week-ends and also on most evenings in the week. Mr. H. W. Hills has brought out two r.o.g. models of the 0-1-1-P2 type, and has obtained good flights, remarkable both for altitude and distance. Mr. Doidge has also been successful with a machine of this type, and his r.o.g. duration of 65 secs., obtained at the K. and M.A.A. trials on June 21st, is a club record, the former record being 41 secs., by Mr. H. E. Fletcher. Hand-launched, without chassis, this machine has also equalled Mr. Lawrence's club record of 70 secs. Mr. Randall, a new member, flies a rather original type of model, viz., a 0-1-1-P2 type, or single-screw tailed mono., and obtains some remarkably good durations. Mr. Mitchell has been flying an 8½ oz. r.o.g. 1-1-0-P2 machine, with upturned wing tips, which is noticeable chiefly for its remarkable turn of speed. Mr. Lawrence has flown a 0-1-1-P2 r.o.g. model; also the same machine hand-launched, obtaining durations of over 60 secs. Mr. Hedges has been busy with a hand-launched 0-1-1-P2 machine, which exhibits great climbing powers and duration (65 secs.). Messrs. Hayward (1-1-0-P2), Short (r.o.g. mono. and r.o.g. aluminium tractor), Johnson (r.o.g. mono.), Brown (r.o.g. mono.), H. G. Hills (0-1-1-P2), and Warwick (0-1-1-P2) have also been flying. The hon. secretary will present a stop-watch to the owner of the first club model to make a duration of 70 secs. (r.o.g.) or 85 secs. (hand-launched). This offer will be withdrawn if no machine qualifies before the end of August.

Leytonstone and District Aero Club (64, LEYSPRING ROAD).

JULY 12TH, flying, 3 p.m., near Brickfields. July 13th, at 6.30 a.m., Model Yacht Pond; at 10 a.m., near Brickfields.

Monthly Report.—A great amount of work has been done during last month, hydros being quite to the fore. Messrs. Bedford and Grattan, who have been devoting most of their time to that branch for some time past, have had to compete this month with Messrs. Ludlow and W. Herson. Mr. F. Hawthorn has another waterplane almost finished. Up to the present only Mr. Grattan has succeeded in flying his model successfully from the water, the model getting off equally well with and against the wind; it failed to alight properly, owing to the surface of the water being so rough. Mr. F. Hawthorn flying his models, which are usually about 2 ft. in length and good distance flyers. Recently one of them was lost over some houses more than 600 yards from the starting-point. The competition, on June 22nd, for duration, afforded some interest in spite of few entries. The prize went to Mr. F. Hawthorn. The tractor-type model has been almost forgotten lately in the enthusiasm for hydros and a sudden craze for duration, but this month two single-screw tractors made their appearance—one by Mr. G. Hawthorn, the other by Mr. F. Grattan. Mr. Hawthorn's has a rather short fuselage and Handley Page wings; Mr. Grattan's is longer in the fuselage, and the main plane has a flexible trailing-edge. Mr. H. Bedford, by way of experiment, constructed a twin-tractor biplane, with an elevator arranged in front of the two tractors so as to miss the slip-stream. The model was tested with and without this extra plane, and its use seemed rather to correct the usual twin-tractor tendency to rise steeply and then dive. Then, as a direct contrast, Mr. Bedford built a very light r.o.g.—fuselage 3 ft. 6 ins.—for duration. Although this model is so light, it is amazingly strong, rises beautifully on low power, and has put up several good duration flights in strong winds. Mr. A. H. Le Cheminant has had some very good flights with hand-launched models, and Mr. Howland has been flying an r.o.g. of ordinary type. Messrs. S. Booth, S. Herson, T. Jack, H. Green, L. McCulloch and F. Woods have also been out on several occasions.

N.E. London Model Ae.C. (57, KING SQ., GOSWELL RD., E.C.).

Monthly Report.—Flying during past month has greatly improved. At official trials on Wimbledon Common, May 31st, the following off-ground flights were made, viz.: J. E. Louch, 54 and 68 secs.; B. Longstaffe, 50 and 56 secs., and H. G. Bond 52 secs. Hand-launched tractor flights by J. E. Louch, 51, 61, and 68 secs., off ground 22 and 45 secs. This machine has accomplished flights off ground of 65 secs.; it is remarkably steady for a tractor, even in a gusty wind. Both first and third prizes in Model Engineer competition were secured by N.E. London members. J. E. Louch first, with 76 secs., and H. G. Bond third, with 51 secs. At Gamage Cup competition, on Saturday week, Louch, after being disqualified from one round, gained second place with 480 yards. There has been a good turn-out of members on Sunday mornings during the month. We are holding an inter-club contest with Aero-Models Association (Northern Branch), date of which will be announced later.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).

JULY 12TH, entries close for Paddington Cup. July 19th, Paddington Cup open duration competition. Models must weigh over 4 ozs., rise under own power, and be fitted with efficient protector. Any competitor pushing his model at time of releasing propellers will be disqualified. Entrance fee to non-members, 2s. A map showing quickest way to reach flying ground will be forwarded to all entrants.

Monthly Report.—At committee meeting, June 4th, Mr. Alfred Perkins was unanimously elected president of the club. Mr. Perkins has generously assisted the club since last August by providing the excellent flying ground, without which the club could not have made the marked progress it has done. The fact that members greatly appreciated his kindness was duly conveyed to him. Mr. Perkins has kindly consented to be present on the occasion of the Paddington Cup contest. The honours during the month have fallen to Mr. C. C. Dutton, who has become by strenuous work and patience a flyer of the highest order. His consistent performances show that luck has little if anything to do with the results. In the Model Engineer Competition at Wimbledon Common, on June 7th, he took second prize with a flight of 52 secs.; by Mr. T. Carter, making good improvement, did 36 secs., and Mr. H. Weston 33 secs. At the K. and M.A.A. official trials at Hendon on June 21st, Mr. Dutton was again very prominent, he beating the r.o.g. distance record with a flight of 296 yds. after allowing for wind velocity. Any member of the club creating or breaking an official record at any of the trials of the K. and M.A.A. wins the club silver-gilt medal. His crowning triumph, however, occurred Saturday week, when he won the Gamage Cup with a flight of 580 yds., beating the second prize winner by 100 yds. Mr. A. Cannell did well with 398 yds. 2 ft., which distance, however, failed to secure third prize by the narrow margin of 4 ft. Mr. T. Carter got off well, his model flying high, but circling spoilt his distance. Mr. H. Woolley put up a good performance with his 12-oz. model, which, however, would persist in flying into the wind. Mr. M. Levy competed, but failed to rise off the surface.

Reigate, Redhill and District (THE COTTAGE, WOODLANDS AVENUE, REDHILL).

JULY 12TH, flying on Earlswood Common.

Monthly Report.—The annual meeting was held at the Club Room on June 4th. An excellent report was read, and balance-sheet presented by late secretary. The management of the club was re-arranged as follows: Mr. W.

Key, chairman; Mr. J. Burghope, vice-chairman; and Mr. W. H. Norton, hon. secretary and treasurer; Messrs. J. L. Sutton and M. H. Wilson being on the committee. It was decided to affiliate with the K. and M.A.A. A social tea has been held at the Club Room. These social affairs are a great help to a club where a certain amount of rivalry exists, due to competitions, &c. On June 7th, the club turned out a good representative stock of machines, viz., 3 r.o.g. propelled biplanes, 5 r.o.g. propelled monoplanes, 1 tractor biplane, 1 tractor monoplane, and 6 hand-launched monos. Mr. Key and Mr. Burghope flew for 3rd and 2nd certificates as a matter of form before taking their 1st, and Mr. Burghope made a club record with 7-oz. r.o.g. mono. of 306 yds., the previous record being held by Mr. Key, with r.o.g. biplane, of 253 yds. Mr. Burghope tuning up his "Olympia" tractor biplane, and Mr. Key flying 7-oz. r.o.g., also 4-oz. h.l. mono.; Mr. Sutton getting splendid flights with 9-oz. biplane, about 80 ft. up, finishing with a good glide, also 24-oz. h.l. mono., with usual high flights; Mr. J. Hoyle with his 8-oz. biplane and 7-oz. r.o.g. mono.; Mr. Hooton, greatest distance with r.o.g. mono., 227 yds., also good flight with 2-oz. h.l. mono.; Mr. Hirst out with 2-oz. h.l. mono.; Mr. Norton with 9-oz. r.o.g. biplane, testing 11-in. instead of 10-in. propellers. This machine is slow and very stable and new propellers were a decided improvement; he also flew 4-oz. h.l. mono. about 300 yds. Since this Mr. Burghope has raised his own r.o.g. mono. record of 306 yds. to 407 yds., and made a new record of 45 secs. duration. Mr. Key has raised his biplane record from 253 yds. to 297 yds. He has also raised the biplane r.o.g. duration record to 44 secs. His 7-oz. r.o.g. monoplane has been much in evidence, flying very fast and steady. On the 21st, the height obtained was well over 150 ft. On the 28th, he was tuning up a 4-oz. r.o.g. biplane in nasty wind, best flight 197 yds.; also 56 secs. with h.l. mono. on 21st. Mr. Burghope has had 42 secs. with 9-oz. r.o.g. biplane. This machine, which has a stabilizer as well as loaded elevator, is very steady, as is also his 7-oz. mono., both flying in nasty wind on 28th. Mr. Sutton has been very busy, as usual, with various types. On June 5th, got over $\frac{1}{4}$ mile with 43 oz. h.l. mono., losing same in tree about 80 ft. high. He has had 281 yds. with 9-oz. r.o.g. biplane, and also 52 secs. with 24-oz. h.l. mono. Mr. M. H. Wilson, with 10-oz. h.l. mono. got 250 to 300 yds. Mr. J. Hoyle tuning up 7-oz. r.o.g. mono., also 4-oz. h.l. mono., getting up to 50 secs. Mr. Hooton tuning 7-oz. r.o.g. mono. He has also 303 yds. to his credit with 8-oz. r.o.g. mono., also over 40 secs. h.l. mono. Mr. Hirst tuning up 7-oz. r.o.g. mono., also doing very well for beginner with 4-oz. h.l. mono. Mr. Norton, with new 7-oz. r.o.g. mono., tuning up; the plane of this machine is proofed with aluminium paint, which answers well in all temperatures.

Tractor Report.—Messrs. Sutton, Burghope and Norton have been tuning experimental tractors, prior to designing tractors for forthcoming competition. Mr. Sutton's is single stick and single skein of rubber, and is loaded about 5 ozs. to 1 sq. ft. He has had 114 yards, but some disadvantage is experienced owing to twist of tail. Mr. Burghope's is a small 1 $\frac{1}{2}$ oz. model, with built fuselage and single skein of rubber, with arrangement allowing for twist. This has done very well. Mr. Norton's has built-up fuselage, is loaded 8 ozs. to 1 sq. ft., and has twin gear. First trial the rudder proved too large and rigid for side wind, flight ending in very realistic nose-dive. Lower rudder is now fitted, also "blinkers" under main plain, decided improvement, greatest flight over 150 yards. There is no dihedral angle on m.p., only turned up tips. All members should benefit by watching trials of three distinct methods of construction. The Club has room for about three good working model members, also one or two kite members. Particulars will be gladly furnished to any reader of FLIGHT who will communicate with Hon. Sec.

Sheffield Model Aero Club (35, PENRHYN ROAD, SHEFFIELD).

July 14th, General meeting at Club Room, 7.30 p.m.
Monthly Report.—The chief events, June 7th, were a series of free trial flights on the glider biplane constructed by Mr. G. H. Dewsnap. It has a 26 ft. span. A strong wind was blowing, and greatly facilitated the trials. Mr. Dewsnap made several good flights, and in one of them accomplished a very steady trip at an altitude of about 50 ft. The wind in the meantime increased in velocity, and after Mr. Dewsnap's trips, another member, Mr. R. E. Rayner, essayed a trip. He got into the glider, and after his fellow-members had let go, the machine was gripped by the wind and raised into the air. In a few seconds it had reached an altitude of about 60 ft., and a 35-40 m.p.h. wind carried it a distance of over 100 yards. Then, suddenly, the machine was seen to bank at an angle of about 50°, and a second or two later it crashed sideways to earth. Mr. Rayner had a miraculous escape from death. Immediately he felt the glider turning over, he had the presence of mind to hold tightly. The result was, that when the biplane struck the ground he escaped with nothing worse than a severe shaking. A special meeting was held on the 9th in the club-room, and the members were highly pleased to hear that, through the kindness of Mr. E. W. Colver (the president), the club had been affiliated with the Kite and Model

Aeroplane Association. Appreciation was also expressed of Mr. Colver's offer to some of the members taking part in the competitions during the year at Hendon and Greenford. A hearty vote of thanks was accorded to Mr. Colver for his generous offer. A *fete* was held at Aston, near Sheffield, on the 14th, with the object of raising funds for repairs to the parish church, when an exhibition of models by the members of the club took place. The machines of Messrs. W. H. Bagshaw, R. E. Rayner, J. P. Worrall and C. F. W. Cudworth reached great altitudes. The whole of the members had a most enjoyable afternoon. Messrs. R. E. Rayner and G. H. Dewsnap have commenced full-size glider monoplane, which is to be 33 ft. span. All being well, they hope to have it finished by August Bank Holiday.

Wimbledon and District (165, HOLLAND ROAD, W.).

July 12th and 13th, flying as usual.
Monthly Report.—Excellent flying has been done during the past month. The competition for hand-launched models on 21st was very successful, there being a good turn-out of members. Mr. Williams took the silver medal with a flight of 71 secs., next in order being Messrs. Wilkinson, 64 secs.; Conolly, 58; Tucker, 47; Hutcheon, 45; and Laing, 41. At the hydro meeting on July 14th, at Welsh Harp, members were very successful, the first prize falling to Mr. Whitworth and the second to Mr. Slatter. In the Gamage Cup competition, on June 28th, Mr. Slatter took the third place. During the month, Mr. Williams raised the club duration record for hand-launched models successively to 75 and 84 secs. with two fine high flights timed by Mr. Akehurst. Several new tractor models have been out, and have been flown with more or less success by Messrs. Laing, Whiteland, Easdale, Tucker and Beazley. Mr. Smith had out his twin-tractor machine, but unfortunately smashed it in a trial flight. Mr. Conolly has out a new r.o.g. model of the loaded-elevator type, which gets off with a remarkably short run, though not a fast machine, and does very good durations.

UNAFFILIATED CLUBS.

Brighton and Hove (59, WESTBOURNE GARDENS, HOVE).

There is a model club here in process of formation which already comprises nine members, but more are wanted to make it a success. Will anybody in the district who is interested please communicate by post to H. R. Kerruish, secretary *pro tem.* 59, Westbourne Gardens, Hove, when full particulars will be forwarded. This club is mainly being formed for the prosecution of scientific model research work, but the flying of ordinary models will not be discouraged. A preliminary meeting will be held at the Jack field on July 19th.

Gospel Oak and Districts (5, VICARS ROAD, N.W.).

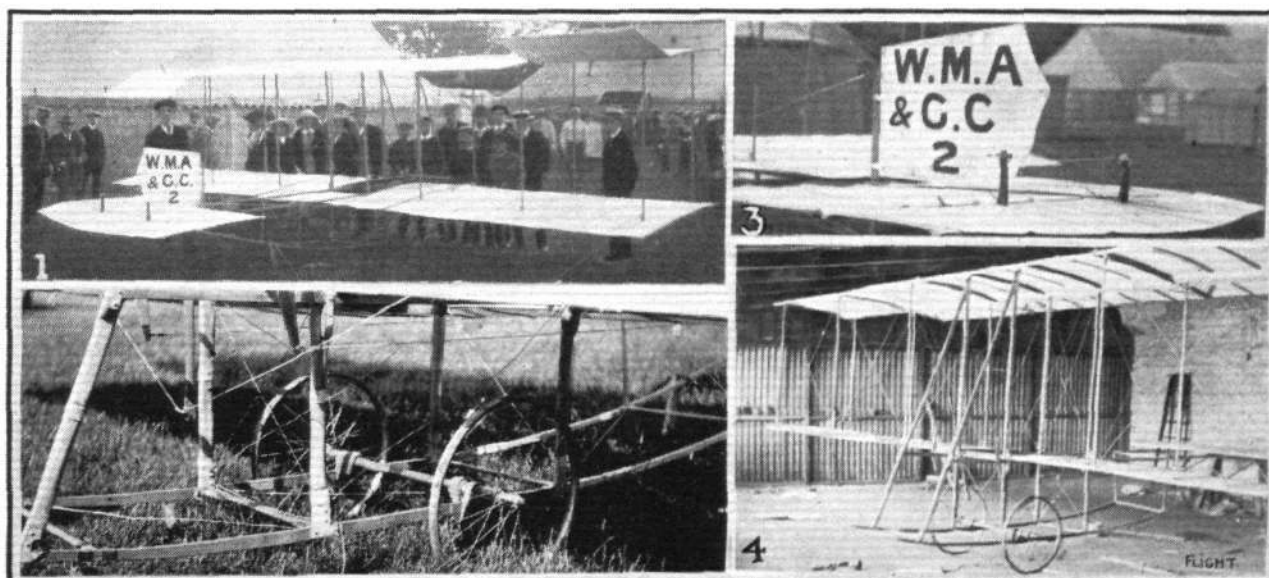
Monthly Report.—A good deal of progress has been made during the month, and several new members have been enrolled. The distance competition on May 31st was won by Mr. Hall (Hall-Curtis mono.) with a flight of 250 yards. R.o.g. machines.—Messrs. Bard, Frost, Hall and Curtis are all busy with this type. Hydro models.—Messrs. Ballinger, Essex and Curtis have all been experimenting with these models, and all have succeeded in getting off the water; several other members have models nearly ready. Messrs. Weston and Hall getting some exceedingly good flights with 0-1-1-P2 type. Messrs. Gibbs, Jones, Burchell, Cart and Smith have also been out doing some good flying. Several of the members have been night flying. Mr. Frost has been getting some good flights with his "star" machines. Mr. Hall out flying the Hall-Curtis biplane, and some long flights have been obtained; this machine is an exceedingly fast flyer. Mr. Jones has been flying his single-screw Blériot Canard, and has had some good flights. Anyone desirous of joining the club should communicate with the secretary at above address.

Handsworth Aero Club (222, LOZELLS ROAD, HANDSWORTH).

During the month good flying by all members on week-ends. Club record to date only 43 secs. Although this club has only been formed a few weeks (June 7th), we have now a glider in hand. Should be glad to hear from anyone living in the district. Catalogues of models and accessories of any firm will be greatly appreciated.

Manchester Model Ae.C. (14, WARWICK RD. N., OLD TRAFFORD).

Monthly Report.—A great amount of experimenting has been done during the past month, and some very useful information has been derived therefrom. The members are showing more enthusiasm and are all working hard in bringing the club up to a high standard. The models, in particular, are a decided improvement as regards design and workmanship as has been in the past, and more detail and originality being put into them. Mr. Kenworthy has had great success with his tractor (Weiss type), and has had 40 secs. hand-launched, which is a club record, while the tractor r.o.g. records fall to Mr. Gilbert with 100 yards and 20 secs., and now that an r.o.g. board has been obtained better results are hoped for, as so far a very rough path has had to answer the purpose, which has been a good test for the models. Mr. Monteiro successfully testing a tractor with new design of



The Windsor Aero Club's glider.

plane. Messrs. Kenworthy and Watson with r.o.g. (o-1-1-P₂) type have also obtained good results, both flying with Weiss-type planes, and have found them to be very stable and very quick in recovering after a dive, the former raised the distance record to 368 yards, and the latter the duration to 34 secs., and also passing for his 3rd class tests. Very good flying was witnessed in the duration handicap, when Mr. Watson with his r.o.g., carried off the 1st prize with an average of 321 secs. for five flights, with Mr. Kenworthy second, 24 secs., and his average would have been much higher had he used more elastic, as his model was slightly underpowered, for after, when fixing two more strands, he broke the tractor duration record. Mr. Huntington, a new member, passed for his 3rd class hand-launched certificate.

Scottish Ae.S. ("ROCHELLE," LIMESIDE AVENUE, RUTHERGLEN).

Monthly Report.—On 7th June, the Secretary gave a demonstration of hydro-aeroplane flying at Stirling, in aid of the local Scouts' Aero Club. The weather was most unsuitable, very high wind and rain, but three flights of short duration were obtained. The members visited Renfrew on the 14th, to see an exhibition of flying by Mr. Lewis Turner, and had the pleasure of seeing flights, timing in all 15 minutes. On the 21st, the Club visited Whiteinch Pond for hydro practice, and some good tests were obtained. The 28th was an off day owing to high winds, and Maxwell Park being rather detrimental to models in this kind of weather. The members still continue to put in some good work in the Club premises, but the Secretary desires that they should do more, as model aeronautics require to be strenuously demonstrated here, as the general public, though keenly interested, prefer to watch and criticise rather than give a helping hand. The Secretary will be pleased to hear from anyone interested in the Club's work, and also show them over the workshop.

S. Eastern Model Ae.C. (1, RAILWAY APPROACH, BROCKLEY).

July 12th. r.o.g. duration competition at Woolwich Common, 5.30 p.m., tractors receiving an allowance of 50 per cent. over twin propeller models. July 24th, last date for sending in entry forms for South Eastern Trophy Competition (July 26th).

Monthly Report.—During the past month members' attention has been occupied preparing for the first competition for the South Eastern Trophy, illustrated in last week's FLIGHT, and during the tests some very valuable experience has been gained. The winner was Mr. F. Plummer, the hon. sec. of the Beckenham branch of the S.E.M.Ae.C., whose Meteor monoplane, fully equipped with wheels and floats, made flights of 25 secs. off water and 20 secs. off land. This model also passed in excellent style the alighting tests and other conditions as per the rules published in FLIGHT, April 19th. This competition has proved a most interesting one in every way. Mr. H. H. Groves has again been doing a large amount of flying with his steam-driven biplane, but his monoplane requires a little further tuning up. Mr. G. H. Westwood has been very active with several tractor monoplane models, a twin-propeller r.o.g. monoplane and a large hydroplane, but the tests with the latter have been delayed as trouble has been experienced with the floats. Mr. C. A. Rippon has been testing both single- and twin-propeller hydro monoplane, in addition to getting some capital flights with an original self-rising model. Mr. R. E. Attwood obtained good results from his tractor monoplane, and also from a light "racer," but this member's hydro failed to attain sufficient speed to enable it to get clear—a trouble also experienced by several others. Several floating tail hydroplanes have been tested by Messrs. A. D. Nicholls, G. Brown and A. B. Clark, but the high "centre of thrust" effectually prevented these models from flying successfully. Elevators have now been attached, and better results are confidently expected. At Brockley, Mr. A. F. Chinnery has made some good flights with his large tractor (18 ozs.) and also with a new twin-propeller mono., as did Mr. W. A. McLaughlin and Mr. W. Barnett at Grove Park with single-propeller models. Mr. L. B. Moris entered a single-propeller hydro-monoplane for the recent competition, but weather conditions were against this type. Mr. E. Hoch obtained some good results from a large tractor fitted with a single screw driven by two skeins of rubber, and Mr. F. G. Peter and Mr. E. Campbell did well with the more orthodox type of tractor monoplane. Dr. G. I. Munn has been flying his usual types of models at Mitcham, and Mr. W. G. Billingham, with a single-screw tractor hydro, made some nice flights at Wimbledon. Mr. C. H. Morgan and Mr. S. E. Grimstone have been flying their monoplane at Woolwich and Blackheath.

The Croydon and District Branch (136A, HIGH STREET, CROYDON).

Monthly Report.—A good deal of work with r.o.g. and hydro models has been done during June. Competitions have been held for r.o.g. models, and among the test results, was a fine flight of 69 secs. off ground by Mr. Pavely's monoplane. Messrs. Carter, Bell, Quick, Hart, Streeter, Young, Stevens and Mullins have all been out with r.o.g. models, and with successful results. Messrs. Pavely, Smither, Bell and Carter have also had fine distance and duration flights with hand-launched models. With hydro models, Messrs. Bell, Carter, Streeter, Pavely, Smither and Hart have been experimenting; Mr. Pavely has had a flight of 46 secs. off the water. Competition for South Eastern Trophy.—This competition was held on Mitcham Common, on 28th inst., in boisterous weather. The water was exceedingly rough. Mr. F. Plummer was winner, with Mr. P. Hart runner up. Mr. Hart's model, though only finished at mid-day on Saturday, and not previously tested, rose from the water at its first attempt, and was very stable in the high wind. The model remained in the air for 21 secs., and the owner found he could fly it with less power, and in his second flight he did 21½ secs. not fully wound up. The third attempt, in which he expected to considerably improve on his previous flights, was spoilt by bad luck, as he accidentally turned the model broadside on to the wind when releasing the propellers. His best flight was, therefore, 21½ secs.; the winner's best flight was 25 secs. Mr. Hart was also very unlucky in the r.o.g. tests. His model is of the elevator leading type, A frame, Caudron pattern main plane (lightly loaded), 2 floats leading, twin propellers, and weighed 9 ozs. complete with rubber and disappearing chassis.

Stony Stratford and District Kite and Model Ae.C. (OLD STRATFORD).

Monthly Report.—Two or three members have been turning out of late tuning up some of last season's models. On June 4th it was decided to have a parade with the glider in substitution of the monthly indoor meeting, three very successful flights being made, the glider during one flight soaring to 75 ft., whilst the second was nearly concluded with an accident, owing to the erratic behaviour of two spectators, who had the presence of mind to fall flat. The third flight ended with a nose-dive and side-slip, which had accelerated some much needed adjustments. This mishap was due to one of the towers stumbling over a tuft of grass, whilst the other tower was not quite quick enough in easing his rope, the net result being two broken wires and one wing arm. The following arrangements and cancellations have been made by the committee:—Firstly, propositions for the discontinuation of the monthly competitions, the half-yearly election of officers, &c., the deletion of the monthly competition rules. Secondly, the re-institution of fortnightly meetings, the advisability of holding monthly meetings at Wolverton, and arrangements to be made that the same be held in the Science and Art Institute; that arrangements be made for an exhibition of models at Wolverton; also that arrangements be made to enable the holding of building

evenings during the winter session. The first of the meetings arranged for Wolverton cannot be called a success, for the muster was only the usual—not a fresh face to be seen; but those present made up for lack of numbers, and followed with interest the secretary's address based on the article, "Notes on Paper Glider Experiments," by Mr. Kilshaw, this article being the prize-winner in FLIGHT. The address was illustrated by paper gliders of the type described and one or two others introduced. Negotiations are in progress for a field for members' use at Wolverton.

Wellington (Som.) and District Model Aeroplane Club (26, FORE STREET, WELLINGTON, SOMERSET).

The first four meetings of the club were fairly successful, considering there was a high wind prevailing on two occasions, and the fact that only two or three members know much about machines. During month, T. Sanders out with A- and T-frame 1-1-P₂ machines; A. Humphries two machines 1-1-P type, obtaining flights of close on 1 mile with good rolling stability within safe limits; W. Moore and H. Sanders trying machines without much success, but from which they have gained experience. There are some r.o.g. machines building, T. Sanders having obtained a rise with his o-P-1-1 type, but unfortunately broke propeller. Secretary would be pleased to receive model catalogues.

Windsor Model and Gliding Club (10, ALMA RD., WINDSOR).

Monthly Report.—The accompanying photographs show the glider, as it was exhibited at the Royal Counties Show. It will be seen that the machine is on quite original lines, and a great departure from orthodox glider design. No. 1 shows it standing on view at the show ground—the interconnected ailerons can be plainly seen. No. 2 gives a good idea of the chassis. It will be noticed that the ordinary rubber suspensions are used. No. 3 shows the tail and rudder, while No. 4 shows the glider in course of construction. The exhibit had the desired effect of arousing local interest, and is therefore eminently satisfactory. The trials which are expected to take place this week will be awaited with more than ordinary interest. There is one novel point about the machine, and that is, that the ailerons, for normal flight are set at negative angles, this being an attempt at securing better lateral stability. All the struts are streamlined, this taking the form of a blunt semicircular entry, gradually tapering away. The control has been somewhat modified. The universally jointed lever has been abandoned, and a rocking bar is now employed. Bowden wire and pulleys have been used, so that there is very little friction. A neat feature is the way the skids continue along and help support the tail, forming virtually a four-membered fuselage. The metal fittings all over the machine are extremely well finished, and do Mr. G. Petit great credit. As an entry into the more practical side of aviation, it must be considered a success. The model flying during the past month has been of a very varied nature. Mr. E. Dousett's tractor monoplane of 3 ft. span has made some flights of 35 secs., the stability being of a very high order. Mr. S. Cann has flown his racing monoplane, and also the Olympia Show biplane. Mr. E. Stanbrook has flown an extremely neat tractor biplane. Messrs. F. Camm, S. Dandridge, and E. Eldridge have also flown models.

[Correspondence has again had to be held over.—E.]

PUBLICATION RECEIVED.

Rendicotti delle Esperienze e Degli Studi. Vol. II, No. 7. Rome: Tipografia della R. Accademia dei Lincei.

IMPORTS AND EXPORTS, 1912-13.

AEROPLANES, airships, balloons, and parts thereof (not shown separately before 1910):—

	Imports.		Exports.		Re Exportation.	
	1912.	1913.	1912.	1913.	1912.	1913.
January ...	619	12,097	2,412	4,005	—	1,510
February ...	3,110	17,361	36	3,147	—	690
March ...	640	20,425	950	1,924	600	1,042
April ...	4,820	15,593	72	5,524	50	1,413
May ...	7,494	51,241	1,350	3,726	154	830
June ...	7,928	14,905	419	1,408	300	1,106
	24,611	131,622	5,239	20,034	1,104	6,591

Aeronautical Patents Published.

Applied for in 1912.

Published July 10th, 1913.

18,039. J. G. A. KITCHEN. Flying machines.

Applied for in 1913.

Published July 10th, 1913.

3,254. G. MARINIER. Aerial propulsion.

5,809. LUFT-FAHRZEUG-GES. Suspension of cars of airships.

FLIGHT.

44, ST. MARTIN'S LANE, LONDON, W.C.
Telegraphic address: Truditur, London. Telephone: 1828 Gerrard.

SUBSCRIPTION RATES.

FLIGHT will be forwarded, post free, at the following rates:—

UNITED KINGDOM.			ABROAD.		
	s.	d.		s.	d.
3 Months, Post Free ...	3	9	3 Months, Post Free ...	5	0
6 " " " " " " " " " " " "	7	6	6 " " " " " " " " " " " "	10	0
12 " " " " " " " " " " " "	15	0	12 " " " " " " " " " " " "	20	0

Cheques and Post Office Orders should be made payable to the Proprietors of FLIGHT, 44, St. Martin's Lane, W.C., and crossed London County and Westminster Bank, otherwise no responsibility will be accepted.